



DTIC FILE COPY

2

UNITED STATES AIR FORCE

AD-A196 894

# OCCUPATIONAL SURVEY REPORT

DTIC  
ELECTE  
JUN 08 1988  
S D  
C/D

BOMB-NAVIGATION SYSTEMS

AFSC 321X0

AFPT 90-321-814

MAY 1988

OCCUPATIONAL ANALYSIS PROGRAM  
USAF OCCUPATIONAL MEASUREMENT CENTER  
AIR TRAINING COMMAND  
RANDOLPH AFB, TEXAS 78150-5000

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

8 8 6 7 05 8  
8 6 7 05 8

DISTRIBUTION FOR  
AFSC 321X0 OSR AND SUPPORTING DOCUMENTS

	<u>OSR</u>	<u>ANL EXT</u>	<u>TNG EXT</u>	<u>JOB INV</u>
AFHRL/MODS	2	1m	1m	1
AFHRL/ID	1	1m	1m/1h	1
AFLMC/LGM	1		1	
AFMPC/DPMRPQ1	2			
ARMY OCCUPATIONAL SURVEY BRANCH	1			
CCAF/AYX	1			
DEFENSE TECHNICAL INFORMATION CENTER	2			
HQ AFISC/DAP	2			
HQ ATC/TTOA	2		1	
HQ SAC/DPAT	3		3	
HQ SAC/TTGT	1		1	
HQ USAF/LEYM	1		1	
HQ USAF/DPPE	1			
HQ USMC (CODE TPI)	1			
NODAC	1			
3400 TCHTW/TTGX (LOWRY AFB CO)	5	2	5	2
3400 TCHTW/TTS (LOWRY AFB CO)	1		1	
DET 5, USAFOMC (LOWRY AFB CO)	1	1	1	1
USAFOMC/OMYXL	10	2m	5	10
3507 ACS/DPKI	1			
3785 FLDTG/TTFO	2		2	

m = microfiche only  
h = hard copy only



Accession For	
NTIS	CRA&I <input checked="" type="checkbox"/>
DTIC	TAB <input type="checkbox"/>
Unannounced <input type="checkbox"/>	
Justification	
By	
Distribution /	
Availability Codes	
Dist	Availability for Special
A-1	

# TABLE OF CONTENTS

	<u>PAGE NUMBER</u>
PREFACE . . . . .	11i
SUMMARY OF RESULTS . . . . .	1v
INTRODUCTION . . . . .	1
Background. . . . .	1
SURVEY METHODOLOGY . . . . .	2
Survey Administration . . . . .	3
Survey Sample . . . . .	3
Task Factor Administration. . . . .	3
SPECIALTY JOBS (Career Ladder Structure) . . . . .	4
Job Descriptions. . . . .	6
Comparison to Previous Survey . . . . .	13
ANALYSIS OF DAFSC GROUPS . . . . .	15
Flightline vs Shop DAFSC Comparison . . . . .	20
FLIGHTLINE PERSONNEL . . . . .	23
SHOP PERSONNEL . . . . .	29
ANALYSIS OF AFSC 321X0 AFR 39-1 SPECIALTY DESCRIPTIONS . . . . .	35
First-Enlistment Personnel. . . . .	35
Training Emphasis Ratings . . . . .	44
Training Documents. . . . .	44
AFSC 321X0 Specialty Training Standard (STS). . . . .	44
POI 3ABR321X0 . . . . .	46
JOB SATISFACTION . . . . .	49
IMPLICATIONS . . . . .	53
APPENDIX A . . . . .	56

## PREFACE

This report presents the results of an Air Force occupational survey of the Bomb Navigation Systems (AFSC 321X0) career ladder. Authority for conducting specialty surveys is contained in AFR 35-2. Computer products used in this report are available for use by operations and training officials.

Mr Donald Cochran developed the survey instrument, Mr Wayne Fruge provided computer programming support, and Ms Raquel A. Soliz provided administrative support. Ms Faye Shenk analyzed the data and wrote the final report. This report has been reviewed and approved for release by Lieutenant Colonel Thomas E. Ulrich, Chief, Airman Analysis Branch, Occupational Analysis Division, USAF Occupational Measurement Center.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies may be requested from the Occupational Measurement Center, Attention: Chief, Occupational Analysis Division (OMY), Randolph AFB, Texas, 78150-5000.

RONALD C. BAKER, Colonel, USAF  
Commander  
USAF Occupational Measurement  
Center

JOSEPH S. TARTELL  
Chief, Occupational Analysis Division  
USAF Occupational Measurement  
Center

[illegible]

## SUMMARY OF RESULTS

1. Survey Coverage: The Bomb-Navigation Systems AFSC was surveyed to provide a current data base for the career ladder due to major technology changes in the past 5 years. The inventory was completed by 466 military personnel (54 percent of the assigned AFSC 321X0 members).
2. Career Ladder Structure: Six jobs were identified within the AFSC 321X0 career ladder. These jobs are Flightline Personnel, Quality Assurance Personnel, Supervisory Personnel, Supply Personnel, Shop Personnel, and Flightline Production Personnel. Flightline Personnel and Shop Personnel represent the core jobs of the career ladder. The remaining jobs represent very small, specialized groups which comprise only a small segment of the population.
3. Career Ladder Progression: Three- and 5-skill level personnel are accomplishing the basic technical skills. The 7-skill level personnel assume a supervisory role although their job is still primarily technical.
4. Career Ladder Documents: The AFR 39-1 Specialty Descriptions adequately reflect the responsibilities of the Bomb-Navigation Systems positions.
5. Training Analysis: Based on percent members performing within either flightline or shop jobs, the majority of the STS and POI elements were supported. Sections covering the new Strategic Radar System and Strategic Mission Data Preparation System (SMDPS) elements were not supported at this time.
6. Implications: Clear distinctions were found between flightline and shop maintenance positions. Training is currently geared toward the flightline job which represents the largest portion of the career ladder. Job satisfaction has improved for first-term personnel; however, 5- and 7-skill level flightline personnel show low job interest and reenlistment potential.

OCCUPATIONAL SURVEY REPORT  
BOMB-NAVIGATION SYSTEMS CAREER LADDER  
(AFSC 321X0)

INTRODUCTION

This is a report of an occupational survey of the Bomb-Navigation Systems career ladder completed by the USAF Occupational Measurement Center (USAFOMC) in April 1988. The last Occupational Survey Report was published in 1977. The career ladder was previously surveyed in 1983 (requested by HQ ATC/TTQ). However, because the field was undergoing major technology changes and task data reflected usage of equipment which was being replaced, a formal OSR was not published.

During the last few years, the Bomb-Navigation Systems career ladder has undergone a major technology change with the conversion to the Offensive Avionics System (OAS) in the B-52 fleet. In addition, a new maintenance concept, Readiness Oriented Logistics System (ROLS) is also being implemented within SAC. Under ROLS, all Bomb-Navigation Shops will be divided into two separate groups. One group will be assigned to the Organizational Maintenance Squadron (OMS) and their responsibilities will include all organizational (flightline) maintenance. The second group will be assigned to the Avionics Maintenance Squadron (AMS) and will be responsible for all intermediate (field shop) maintenance.

Other modifications are in progress. The Strategic Radar (SR) modification replaces the ASQ-38 hardware that was retained with the OAS modification. The SR modification began in June 1986 and is programmed to take 4½ years to complete. Resident training personnel need to identify what tasks are being done in the field on the new Strategic Radar System. This training is being conducted through FTD courses until the new Strategic Radar course comes on line in May 1988. Additionally, personnel assigned to the AMS will perform organizational level maintenance to the LRU level on the Strategic Mission Data Preparation System (SMDPS).

The Plans and Branch Programs of the Occupational Analysis Division (USAFOMC/OMYX) initiated the current survey request to provide an update of the career ladder due to major technology changes in the past 5 years. Functional Managers and Tech School Training Managers who establish training standards and tech school course curriculum need to know what tasks are now being performed in the field.

Background

AFSC 321X0, Bomber-Navigation Mechanic, was created in 1955/56 with shred designations K and L to denote the specific aircraft and type of systems maintained. In 1984, the shreds were deleted and the ladder retitled Bomb-Navigation Systems.

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

Effective October 1988, AFSC 321X0 will convert to AFSC 456X0 and pick up tasks from the Aerospace Photographic System (AFSC 404X1) career ladder involving photographic equipment on the B-52. The present responsibilities of the Bomb-Navigation Systems job will not change.

According to the present AFR 39-1 description, Bomb-Navigation Systems personnel isolate unit malfunctions and perform flightline and field maintenance on analog and digital bomb-navigation systems and associated equipment.

Primary entry into the career ladder is through a 24-week, 2-day resident training course (G3ABR32130) at Lowry AFB, Colorado. The Bomb-Navigation course covers the first block of Electronic Principles (68 days); use of test equipment; technical order procedures; trace data flow to include theory of operation, troubleshooting, isolation and repair of malfunctions; analog and digital computer theory and techniques; mapping, tracking, and terrain avoidance radar theory of operation and maintenance; electro-optical viewing system theory of operation and maintenance; and inspection and alignment of ASQ-176 bomb-navigation systems and ASQ-151 electro-optical viewing systems.

#### SURVEY METHODOLOGY

Data for this survey were collected using job inventory AFPT 90-321-814 dated May 1987. To develop the inventory, pertinent career ladder documents, the previous OSR, and the previous inventory were reviewed. A tentative task list was then validated through personal interviews with subject-matter experts in operational units at the following bases:

Wurtsmith AFB MI  
KI Sawyer AFB MI  
Minot AFB ND  
Griffiss AFB NY  
Loring AFB ME  
Fairchild AFB WA  
Mather AFB CA  
Castle AFB CA  
Carswell AFB TX  
Blytheville AFB AR  
Barksdale AFB LA

Field interviews at operational bases were determined based on the recommendation of the HQ SAC functional manager. The bases were chosen with respect to their assigned aircraft and organizational structure. Bases implementing the new maintenance concept, ROLS, were included, and bases using the new SR system were visited. A total of 66 subject-matter experts, representing 11 operational bases, plus Tech School Instructors, were interviewed during the development phase.

The resulting inventory listed 785 tasks grouped into 18 duty headings and a number of background questions asking for information about the duty title, organizational level of assignment, duty AFSC, time in service, time in career ladder, job satisfaction, and equipment used.

### Survey Administration

From June 1987 through September 1987, Consolidated Base Personnel Offices at operational bases worldwide administered the surveys to 629 members of this career ladder. Participants were selected from a computer-generated mailing list provided by the Air Force Human Resources Laboratory.

All individuals who filled out an inventory completed an identification and biographical information section first. Next, they went through the booklet and checked each task performed in their current job. Finally, they went back and rated each task they had checked on a 9-point scale reflecting relative time spent on each task compared to all other tasks. Ratings ranged from 1, which indicated a very small amount of time spent, to 9, which indicated a very large amount of time spent. The relative percent time spent on tasks for each inventory was computed by first totaling all rating values on the inventory. Then the rating for each task was divided by this total and the result multiplied by 100. The percent time spent ratings from all the inventories was combined and used with percent members performing values to describe the various groups in the career ladder.

### Survey Sample

Because the career ladder was fairly small, all eligible AFSC 321X0 personnel were asked to complete the survey. Personnel who had not been working in their present job for at least 6 weeks, or who were in PCS status were not considered eligible. For this study, 629 DAFSC 321X0 personnel were asked to complete the inventory. Four hundred sixty-six respondents were included in the final sample. This represents 54 percent of those assigned. Ninety percent of the survey sample are assigned to SAC and 10 percent to ATC.

### Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Additional task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 321X0 personnel completed either a Training Emphasis (TE) or Task Difficulty (TD) booklet. The TE and TD data were used in several analyses discussed later in this report.

Training Emphasis (TE). Training emphasis is the amount of structured training that first-term DAFSC 321X0 personnel need to successfully perform tasks. Structured training is defined as training provided by resident technical schools, field training detachments (FTDs), mobile training teams (MTTs), from OJT, or any other organized training method. Thirty-eight Bomb-Navigation



Systems personnel completed TE booklets. They rated all tasks in the inventory on a 10-point scale ranging from no training required (0) to much structured training required (9). Interrater reliability (as assessed through components of variance of standard group means) was .90, which indicates good agreement among raters.

When TE ratings are used with other information, such as percent members performing and task difficulty, they can provide insight into training requirements and help validate the need for organized training for the career ladder.

Task Difficulty (TD). Task Difficulty is defined as the amount of time the average airman needs to learn to do a task satisfactorily. Thirty-nine experienced AFSC 321X0 personnel rated the difficulty of the tasks in the inventory on a 9-point scale ranging from 1 (easy to learn) to 9 (very difficult to learn). Ratings were adjusted so tasks of average difficulty would have a value of 5.0. Interrater reliability was .93, which indicates high agreement among raters.

#### SPECIALTY JOBS (Career Ladder Structure)

A USAF occupational analysis begins with an examination of the career ladder structure. This analysis is based on what personnel are doing in the ladder as determined from task responses, in contrast to official career ladder document definitions of their job. The job structure for the Bomb-Navigation Systems career ladder was determined by performing a job type analysis of the 466 survey respondents from the AFSC 321X0 career ladder.

Based on task similarity and time spent, Bomb-Navigation Systems personnel separated into six different jobs (see Figure 1). These jobs are identified below. The stage (STG) number is a reference to computer-printed information. The letter "N" stands for the number of personnel in the group.

- I. FLIGHTLINE PERSONNEL (STG40, N=232)
- II. QUALITY ASSURANCE PERSONNEL (STG112, N=6)
- III. SUPERVISORY PERSONNEL (STG26, N=36)
- IV. SUPPLY PERSONNEL (STG49, N=7)
- V. SHOP PERSONNEL (STG45, N=141)
- VI. FLIGHTLINE PRODUCTION PERSONNEL (STG55, N=5)

321XO SPECIALTY JOBS  
(N=466)

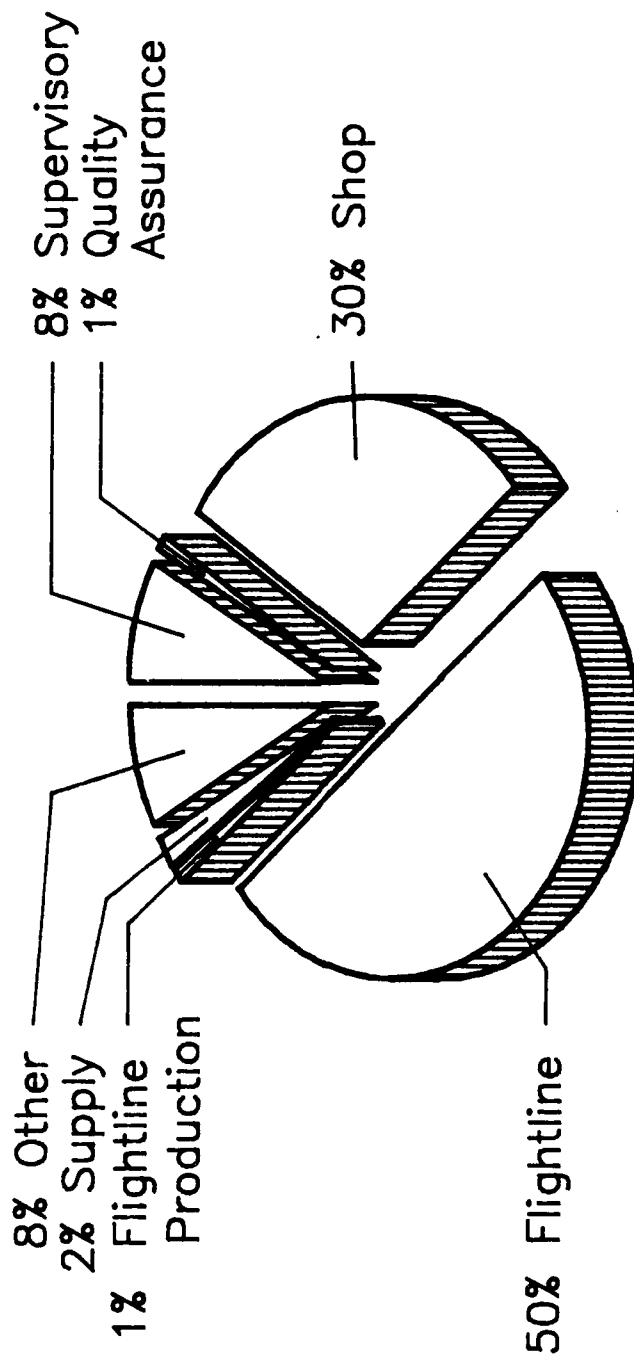


Figure 1

Ninety-two percent of the survey sample are included within these jobs. The remaining 8 percent performed tasks, or a series of tasks, that did not group with any of the defined job types. Some job titles given by these respondents include: Controller, First Sergeant, Group OJT Monitor, and Dispatcher.

### Job Descriptions

The following paragraphs offer a brief description of each major job area identified in this analysis. Task lists for each major job are given in Appendix A. Selected background information is provided in Table 1 and the relative time members spend in each duty area is shown in Table 2.

I. FLIGHTLINE PERSONNEL (N=232). Based on SAC's ROLS concept of organization, the Bomb-Navigation Systems career ladder is divided into AMS (Shop) and OMS (Flightline) groups. This same division is clearly identified within the career ladder structure. Seventy-six percent of this group are 3- and 5-skill level personnel. Members have been in the career ladder an average of 50 months and are in their second enlistment (74 months average TAFMS). Thirty-seven percent are in their first enlistment. Thirty-five percent indicate they supervise. Ninety-one percent of those included in the Flightline Personnel job indicate they are assigned to the flightline; 8 percent are involved in training activities.

Members of this group perform an average of 151 tasks. One hundred sixteen of these tasks are performed by at least two-thirds of the group members and make up or account for 70 percent of their job time. They spend a third of their job time performing flightline maintenance on the ASQ-176 Offensive Avionics System (OAS). Additionally, they spend 15 percent of their time performing flightline maintenance on the ASQ-176 OAS Terrain Avoidance (TA) Radar System and 14 percent on ASQ-151 Electro-Optical Viewing System (EVS). Twelve percent of their time is spent performing general flightline maintenance tasks. At present, only 2 percent of their time is spent performing flightline maintenance on the APQ-166 Strategic Radar (SR) System. Less than 1 percent of their time is spent on shop tasks.

Examples of common tasks performed by members within the Flightline job include:

- make entries on AFTO Forms 349
- inspect nuclear hardened cables or connectors
- inspect or service desiccants
- perform component replacement checks
- isolate malfunctions within ASQ-151 EVS forward looking infrared (FLIR) systems
- perform operational checks of ASQ-151 EVS STV systems
- remove or replace ASQ-151 EVS DPG line replaceable units (LRU)
- remove or replace ASQ-151 EVS FLIR scanner assemblies

TABLE 1

## SELECTED BACKGROUND DATA FOR 321X0 CAREER LADDER STRUCTURE GROUPS

	JOB GROUPS					FLTL PRODUCTION PERSONNEL (N=5)
	FLTL PERS (N=232)	QA PERS (N=6)	SUPVRY PERS (N=36)	SUP PERS (N=7)	SHOP PERS (N=141)	
PERCENT OF TOTAL SAMPLE	50%	1%	8%	2%	30%	1%
DAFSC DISTRIBUTION (PERCENT RESPONDING)						
32130	30%	-	-	-	28%	-
32150	46%	-	6%	100%	47%	-
32170	24%	100%	94%	-	25%	100%
PREDOMINANT PAYGRADE(S)						
AVERAGE MONTHS IN CAREER LADDER	E3-E5 50	E5,E6 134	E6,E7 148	E3,E4 31	E3-E5 53	E7 191
AVERAGE MONTHS IN SERVICE	74	146	191	51	66	196
PERCENT FIRST ENLISTMENT	37%	-	-	57%	35%	-
PERCENT SUPERVISING						
AVERAGE NUMBER OF TASKS PERFORMED	35% 151	50% 57	94% 101	14% 34	40% 197	100% 18

TABLE 2

AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER STRUCTURE GROUPS  
(PERCENT MEMBERS RESPONDING)\*

DUTIES	JOB GROUPS					
	FLTL PERS (N=232)	QA PERS (N=6)	SUPVRY PERS (N=36)	SUP PERS (N=7)	SHOP PERS (N=141)	FLTL PRODUCTION PERSONNEL (N=5)
A ORGANIZING AND PLANNING	2	7	17	5	1	24
B DIRECTING AND IMPLEMENTING	2	5	13	5	1	21
C INSPECTING AND EVALUATING	2	22	16	10	1	18
D TRAINING	3	13	15	3	2	2
E PERFORMING ADMINISTRATIVE TASKS	5	15	16	12	5	14
F PERFORMING GENERAL SUPPLY TASKS	2	5	10	44	6	1
G PERFORMING CUT TASKS	3	1	-	3	-	7
H PERFORMING GENERAL MAINTENANCE TASKS	4	4	1	9	5	1
I PERFORMING GENERAL FLTL MAINTENANCE TASKS	12	5	-	-	-	11
J PERFORMING FLTL MAINT ON ASQ-176 OAS TA RADAR SYS	15	-	-	-	-	-
K PERFORMING FLTL MAINT ON ASQ-151 EVS	14	1	-	-	-	-
L PERFORMING FLTL MAINT ON ASQ-176 OAS	33	-	1	2	-	-
M PERFORMING FLTL MAINT ON APQ-166 SR SYS	2	-	-	-	-	-
N PERFORMING GENERAL FIELD SHOP MAINTENANCE TASKS	-	-	2	5	19	-
O PERFORMING FIELD SHOP MAINT ON ASM-46B COMP TEST SETS, NRTC TEST SETS, AND RTC	-	4	2	-	3	-
P PERFORMING FIELD SHOP MAINT ON ASQ-176 OAS LRU USING ASM-653 SAT	-	7	2	-	15	2

\* Columns may not add up to 100 percent due to rounding

- indicates less than 1 percent

TABLE 2 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER STRUCTURE GROUPS  
(PERCENT MEMBERS RESPONDING)\*

DUTIES	JOB GROUPS				
	FLTL PERS (N=232)	QA PERS (N=6)	SUPVRY PERS (N=36)	SUP PERS (N=7)	SHOP PERS (N=141)
Q PERFORMING FIELD SHOP MAINT ON ASM-653 SAT	-	-	-	-	3
R PERFORMING FIELD SHOP MAINT ON EVS/OAS LRU USING ASM-479AX TEST SET	-	-	-	-	13
S PERFORMING FIELD SHOP MAINT ON ASM-479AX TEST SET	-	2	1	-	7
T PERFORMING FIELD SHOP MAINT ON EVS LRU USING ASM-470 EVS TEST SET	-	-	-	-	6
U PERFORMING FIELD SHOP MAINT ON ASM-470 EVS TEST SETS	-	-	-	-	3
V PERFORMING FIELD SHOP MAINT ON ASM-661 TMAIS AND TM ASSEMBLIES	-	2	1	-	2
W PERFORMING FIELD SHOP MAINT ON ASM-641 INS TEST SETS AND INS LRU	-	2	1	-	4
X PERFORMING FIELD SHOP MAINT ON SMDPS	-	2	-	3	1
Y PERFORMING FLD SHOP MAINT ON ASQ-176 OAS LRU AND APQ-166 STRATEGIC RADAR LRU USING APM-440 RADAR TEST SET (RTS)	-	2	1	-	2

\* Columns may not add up to 100 percent due to rounding

- Indicates less than 1 percent

- isolate malfunctions within inertial navigation systems (INS)
- perform ASN-136 initialization and inertial measurement equipment (IME)/GMCP checkouts

Some of their most time-consuming tasks include:

- remove or replace aircraft OAS line replaceable units (LRU)
- open or close aircraft radomes
- remove or replace ASQ-151 EVS FLIR scanner assemblies
- clean ASQ-151 EVS turret windows
- perform ASQ-176 OAS ground cooling and system power applications
- remove or replace ASQ-151 EVS STV camera assemblies

Within the Flightline Personnel job, several small groups, such as Flight Chiefs, First-Term Personnel, and Instructors, were found. Additionally, Flightline Personnel working on the APQ-166 Strategic Radar (SR) System were also identified. For instance, five members grouped together based on their activities as OJT Instructors, apparently on the APQ-166 Strategic Radar System. Although there are some variations, the jobs of personnel assigned to the flightline are basically homogeneous.

II. QUALITY ASSURANCE PERSONNEL (N=6). Quality assurance was listed as the job title by six members who grouped together based on their performance of inspecting, evaluating, administrative, and training tasks. They inspect:

- support equipment or special tools
- in-shop maintenance actions
- nuclear hardened cables or connectors
- ASM-470 EVS test sets
- ASM-641 INS test sets
- Reinstrumented Terrain Computer (RTC)
- ASM-468 test sets

They also evaluate:

- quality control procedures
- personnel for compliance with Technical Orders
- serviceability of equipment
- personnel for need of training

All of the members of this group are 7-skill level. They are senior personnel who have been in the career ladder an average of 134 months and in the service 146 months. They perform an average of 57 tasks; however, 38 tasks performed by at least two-thirds of the six members occupy 65 percent of their time.

III. SUPERVISORY PERSONNEL (N=36). Thirty-six Bomb-Navigation Systems personnel merged to form a supervisory/administrative job group. Members of this group have different functional responsibilities, such as Maintenance Analysis/Work Center Supervisor, Branch Chief, and Field Shop Supervisor; however, their supervisory role has brought them together. As a group, they spend about three-fourths of their job time in areas of administration and supervision. Common tasks performed include:

- inspect personnel for compliance with military standards
- write APR
- compile data for reports
- counsel subordinates, such as on job progress, military-related matters, and personal matters
- establish performance standards for subordinates
- interpret directives for subordinates

Overall, members of the Supervisory Personnel job group are doing very few technical tasks. Their job is one of supervision and administration. They perform an average of 101 tasks, with 22 common tasks occupying a fourth of their job time. They perform a wide range of additional duties which include acting as Equipment Custodian, Due-in-from-Maintenance Monitor, Maintenance Management Information Control System (MMICS) Monitor, Test Equipment Monitor, Training OJT Monitor, and Precision Measuring Equipment (PME) Monitor. Several of the Instructor Supervisors were also included within the overall group of supervisors. These members average 148 months in the career ladder and 191 months in the service. Forty-two percent of this group are eligible to retire.

IV. SUPPLY PERSONNEL (N=7). Seven career ladder members formed a group based on their performance of supply-related tasks. All indicate their functional area of responsibility as Test Equipment/Tool Room. They spend 44 percent of their job time performing general supply tasks, such as:

- inspect support equipment or special tools
- issue equipment or supplies
- inventory equipment or tools
- evaluate serviceability of equipment
- maintain consolidated tool kits (CTK)
- make entries on AFTP Forms 350 (Reparable Item Processing Tag)
- repair cables, other than nuclear hardened cables



annotate and attach equipment status labels or tags to  
equipment  
research microfiche files or Technical Orders for supply  
requisition data

These members perform a very restricted job. They perform an average of 34 tasks, spending 50 percent of their time on 16 tasks. All are 5-skill levels with an average time in the career ladder of 31 months and 51 months in the Air Force. Over half are in their first enlistment, and all have been in their current assignment less than 2 years. They perform additional duties, such as Test Equipment Monitor and PME Monitor.

V. SHOP PERSONNEL (N=141). Shop Personnel represent 30 percent of the survey sample. Seventy-five percent of this group are 3- and 5-skill level. They average 53 months in the career ladder and 66 months in the service. Thirty-five percent are in their first enlistment, with 26 percent in the first job (less than 2 years of total service time). Forty percent of the Shop Personnel indicate they supervise. Generally, they describe their job titles as Field Shop Mechanic or Technician (83 percent) or Field Shop Supervisor (16 percent). Three percent indicate they are instructors. Primary functional areas of responsibility are listed below:

ASM-479AX Test Set	40%
ASM-653 System Avionic Test (SAT)	23%
ASM-470 EVS Test, CAM/SCAN Maintenance	19%
ASQ-176 OAS, General	12%

Members of this group perform a wide range of functions, averaging 197 tasks. They perform 91 core tasks (at least two-thirds of the members performing) which occupy almost half of their job time. Some of their most time-consuming tasks are given below:

- make entries on AFTO Forms 349
- make entries on AFTO Forms 350 (Reparable Item Processing Tag)
- remove or replace printed circuit boards
- assemble or disassemble offensive avionics system (OAS)
  - line replaceable units (LRU) or LRU subassemblies
- pack or unpack OAS LRU
- research illustrated parts breakdown (IPB) for OAS Field Shop Maintenance
- perform in-shop corrosion control procedures on LRU
- solder terminals or wires
- align reinstrumented terrain computers (RTC)
- remove or replace FLIR scanner shop replaceable units (SRU)

They spend 19 percent of their job time performing general field shop maintenance tasks.

Among the Shop Personnel, there were differences based primarily on equipment used. Although personnel may seem to specialize in use of one test set, they can work on all sets. Apparently, if a person becomes adept with one test set, he or she will be assigned to operate that particular set. The major tests sets are the ASM-653 System Avionics Tester (SAT), ASM-479AX Test Set, and the ASM-470 EVS Test Set. There are overlapping features on the test sets as well as unique features for each one. More senior personnel maintain the test sets. A small group performing field shop maintenance on the ASQ-176 OAS LRU and AP0-166 Strategic Radar LRU using APM-440 Radar Test Set (RTS) was identified.

VI. FLIGHTLINE PRODUCTION PERSONNEL (N=5). The last group is identified as Flightline Production Personnel. Three-fourths of their time is spent on organizing, planning, directing, implementing, inspecting, evaluating, and performing administrative tasks. Fifty percent of their time is spent on the following eight tasks:

- determine work priorities
- direct flightline maintenance vehicles
- drive flightline maintenance vehicles
- schedule work priorities
- inspect personnel for compliance with military standards
- coordinate work request with Maintenance Control
- write APR
- write recommendations for awards and decorations
- plan or schedule work assignments

These five members are all 7-skill level and all supervise. Four of the five indicate their job title is Flightline Dispatcher, while one is a Flightline Supervisor. They represent the most senior of the job groups with an average time in the career ladder of 191 months and an average of 196 months in the service. They perform a very restricted job, averaging 18 tasks, geared toward more of a management role on the flightline. Their job is probably close to that of the Work Center Supervisor, who is more directly involved in shop responsibilities.

#### Comparison to Previous Survey

The previous survey for the Bomb-Navigation Systems career ladder was accomplished in 1977. Since that time, the career ladder has undergone several major changes which include conversion to new equipment and a new maintenance concept (ROLS). The K- and L-shred designations which denoted specific aircraft and type of system maintained were deleted in 1984.

The 1977 OSR identified four major job areas and two specialized jobs. These jobs are outlined in Table 3. The main focus of the career ladder has remained the same. Divisions were found in 1977 and in the current survey for flightline and shop maintenance. Personnel previously assigned the K-shred

TABLE 3  
COMPARISON OF JOB GROUPS FOR CURRENT AND PREVIOUS INVENTORY

1977 REPORT	CURRENT REPORT
B-52D BNS MAINTENANCE PERSONNEL (N=69)	-
B-52G/H BNS LINE MAINTENANCE PERSONNEL (N=342)	FLIGHTLINE PERSONNEL (N=232)
B-52G/H BNS SHOP MAINTENANCE PERSONNEL (N=64)	SHOP PERSONNEL (N=141)
MANAGEMENT, SUPERVISION AND TRAINING PERSONNEL (N=99)	SUPERVISORY PERSONNEL (N=36)
JOB CONTROL MONITORS (N=16)	FLIGHTLINE PRODUCTION PERSONNEL (N=5)
OJT MONITORS (N=12)	-
-	QUALITY ASSURANCE PERSONNEL (N=6)
-	SUPPLY PERSONNEL (N=7)

(B-52G/H aircraft) separated into flightline and shop maintenance groups. However, personnel assigned to the L-shred apparently performed both flightline and shop maintenance on the B-52D aircraft. In the current survey, separate jobs were identified for Quality Assurance Personnel and Supply Personnel. These jobs involve a small number of people and are specialized responsibilities. The previous inventory identified a separate job for OJT Monitors which did not appear as a separate job in the current analysis.

In summary, although the systems have changed, the basic type of job performed by Bomb-Navigation Systems personnel remains fairly stable.

#### ANALYSIS OF DAFSC GROUPS

An examination of DAFSC groups, in conjunction with the analysis of the specialty jobs, is an important part of each occupational analysis. The DAFSC analysis reveals similarities and differences among the various skill levels in relation to the tasks they perform and the relative time spent on particular duties. The information is used to assess the accuracy of career ladder documents, such as the Specialty Descriptions (AFR 39-1) and the Specialty Training Standard (STS), as well as to determine potential training needs.

Table 4 presents the relative percent time spent in each duty across skill levels (information is also shown for shop and flightline skill levels). This table illustrates the pattern of career progression in the ladder. As shown, 3-, 5-, and 7-skill level personnel focus their time in the technical areas. The 7-skill level begins to develop some supervisory experience, but only about a fourth of their job time is spent on management tasks. Specific skill levels are discussed below.

DAFSC 32130/32150. A comparison of duty and task performance between 3- and 5-skill level personnel indicates the job they perform is essentially the same; therefore, they are discussed as one group. Three- and 5-skill level personnel (N=311) represent 67 percent of the survey sample. The 3- and 5-skill level personnel perform many tasks in common (time spent overlap is 76 percent). The tasks which show differences between the skill levels reflect the job expansion and the beginning of supervisory responsibilities rather than differences in performance of technical tasks. Three-skill level members perform an average of 109 tasks compared to an average of 163 tasks by 5-skill level personnel. As a total group, the Bomb-Navigation Specialists do not show high concentrations of time in any one area. Table 5 presents representative tasks performed by these airmen.

The distribution of skill level personnel across the career ladder job areas is displayed in Table 6. As would be expected, most 3- and 5-skill level personnel are found within the Flightline and Shop Personnel Jobs. As

TABLE 4

AVERAGE PERCENT TIME SPENT ON DUTIES BY DAFSC GROUPS  
(PERCENT MEMBERS RESPONDING)\*

	TOTAL SAMPLE			FLIGHTLINE PERS			SHOP PERSONNEL		
	3/50 (N=311)	70 (N=155)		30 (N=70)	50 (N=99)	70 (N=65)	30 (N=42)	50 (N=72)	70 (N=38)
A ORGANIZING AND PLANNING	1	8		-	1	8	-	2	4
B DIRECTING AND IMPLEMENTING	1	7		-	2	7	-	2	4
C INSPECTING AND EVALUATING	1	9		-	2	8	-	1	5
D TRAINING	3	9		1	2	7	-	3	5
E PERFORMING ADMINISTRATIVE TASKS	6	11		5	5	9	5	6	8
F PERFORMING GENERAL SUPPLY TASKS	4	6		2	3	4	7	6	8
G PERFORMING CUT TASKS	2	1		3	3	2	1	1	-
H PERFORMING GENERAL MAINTENANCE TASKS	5	3		5	5	3	7	5	4
I PERFORMING GENERAL FLTLINE MAINTENANCE TASKS	8	5		5	12	9	1	1	1
J PERFORMING FLTLINE MAINT ON ASQ-176 OAS TA RADAR SYS	9	5		5	16	11	-	-	-
K PERFORMING FLTLINE MAINT ON ASQ-151 EVS	9	4		7	13	9	0	0	0
L PERFORMING FLTLINE MAINT ON ASQ-176 OAS	20	10		4	32	21	-	1	1
M PERFORMING FLTLINE MAINT ON APQ-166 SR SYSTEM	1	1		2	3	1	-	-	-
N PERFORMING GENERAL FIELD SHOP MAINTENANCE TASKS	8	4		-	-	-	27	17	12
O PERFORMING FIELD SHOP MAINT ON ASM-46B COMPUTER TEST SETS, NRTC TEST SETS, AND RTC	1	1		-	-	-	4	4	2
P PERFORMING FIELD SHOP MAINT ON ASQ-176 OAS LRU USING ASM-653 SAT	6	3		-	-	1	13	16	12
Q PERFORMING FIELD SHOP MAINT ON ASM-653 SAT	1	1		-	-	-	2	3	2

\* Columns may not add up to 100 percent due to rounding

- Indicates less than 1 percent

TABLE 4 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY DAFSC GROUPS  
(PERCENT MEMBERS RESPONDING)\*

	TOTAL SAMPLE		FLIGHTLINE PERS			SHOP PERSONNEL		
	3/50	70	30	50	70	30	50	70
	(N=311)	(N=155)	(N=70)	(N=99)	(N=65)	(N=42)	(N=72)	(N=38)
R PERFORMING FIELD SHOP MAINT ON EVS/OAS LRU USING ASM-479AX TEST SETS	5	3	-	-	-	12	12	11
S PERFORMING FIELD SHOP MAINT ON ASM-479AX TEST SET	2	3	-	-	-	1	7	7
T PERFORMING FIELD SHOP MAINT ON EVS LRU USING ASM-470 EVS TEST SET	2	1	-	-	-	6	5	4
U PERFORMING FIELD SHOP MAINT ON ASM-470 EVS TEST SETS	1	1	-	-	-	1	3	2
V PERFORMING FIELD SHOP MAINT ON ASM-661 TMATS AND TM ASSEMBLIES	1	1	-	-	-	2	2	2
W PERFORMING FIELD SHOP MAINT ON ASM-641 INS TEST SETS AND INS LRU	-	1	-	-	-	3	4	3
X PERFORMING FIELD SHOP MAINT ON SMDPS	-	1	-	-	-	-	1	2
Y PERFORMING FLD SHOP MAINT ON ASQ-176 OAS LRU AND APQ-166 STRATEGIC RADAR LRU USING APM-440 RADAR TEST SET	1	-	-	-	-	4	2	1

\* Columns may not add up to 100 percent due to rounding

- Indicates less than 1 percent

TABLE 5

REPRESENTATIVE TASKS PERFORMED BY DAFSC 32130/32150 AIRMEN  
(NUMBER OF MEMBERS: 311)

TASKS	PERCENT MEMBERS PERFORMING
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	83
H240 INSPECT OR SERVICE DESICCANTS	82
E137 MAKE ENTRIES ON AFTO FORMS 349	82
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	81
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	77
H239 INSPECT NUCLEAR HARDENED CABLES OR CONNECTORS	77
H242 REPAIR CABLES, OTHER THAN NUCLEAR HARDENED CABLES	75
H247 SOLDER TERMINALS OR WIRES	74
H237 CLEAN ELECTRO-OPTICAL VIEWING SYSTEMS (EVS) LENS	59
F174 INVENTORY EQUIPMENT OR TOOLS	57
I255 OPEN OR CLOSE AIRCRAFT RADOMES	56
H238 CLEAN EVS MIRRORS	56
K323 REMOVE OR REPLACE ASQ-151 EVS FLIR SCANNER ASSEMBLIES	56
K309 CLEAN ASQ-151 EVS TURRET WINDOWS	55
K318 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS FLIR SYSTEMS	55
K320 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS STV SYSTEMS	55
I267 REMOVE OR REPLACE AIRCRAFT OAS LINE REPLACEABLE UNITS (LRU)	54
L345 PERFORM ASN-136 INS SHUTDOWNS	54
K328 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ASSEMBLIES	54
I269 RESEARCH AIRCRAFT TECHNICAL ORDER (TO) SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	54
H244 REPAIR NUCLEAR HARDENED CONNECTORS OR MULTIPIN CONNECTORS	54
L370 PERFORM ASQ-176 OAS GMCP LOADINGS	54
I264 REMOVE OR REPLACE AIRCRAFT DESICCANTS OR DESICCATOR ASSEMBLIES	53
K324 REMOVE OR REPLACE ASQ-151 EVS FLIR SIGNAL PROCESSORS	53
L364 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS SHUTDOWNS	53
K313 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS FORWARD LOOKING INFRARED (FLIR) SYSTEMS	52
L371 PERFORM ASQ-176 OAS GROUND COOLING AND SYSTEM POWER APPLICATIONS	52
L383 PERFORM ASQ-176 OAS PREOPERATIONAL CONTROL SETTINGS	52
J299 REMOVE OR REPLACE AIRCRAFT RECEIVER-TRANSMITTER MODULATORS (RTM)	52
K314 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS STEERABLE TELEVISION (STV) SYSTEMS	52
L363 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS POWER APPLICATION AND TURN ON PROCEDURES	52
L341 ISOLATE MALFUNCTIONS WITHIN INERTIAL NAVIGATION SYSTEMS (INS)	52
K316 PERFORM ASQ-151 EVS SYMBOL CHECKS	52
L362 PERFORM ASQ-176 OAS COMPUTATIONAL SYSTEM SHUTDOWNS	51

TABLE 6  
DISTRIBUTION OF DAFSC GROUP MEMBERS ACROSS  
CAREER LADDER JOB GROUPS  
(PERCENT MEMBERS)\*

<u>JOB GROUPS</u>	<u>32130/50 (N=311)</u>	<u>32170 (N=155)</u>
FLIGHTLINE PERSONNEL	57%	35%
QUALITY ASSURANCE PERSONNEL	-	4%
SUPERVISORY PERSONNEL	-	22%
SUPPLY PERSONNEL	2%	-
SHOP PERSONNEL	34%	23%
FLIGHTLINE PRODUCTION PERSONNEL	-	3%
OTHER (N=40)**	6%	13%

- Indicates less than 1 percent

\* Columns may not add up to 100 percent due to rounding

\*\* Those incumbents not grouping in any of the above job groups



shown in Table 6, 57 percent of the specialists are found within the Flightline Personnel job and 34 percent within the Shop Personnel job. When analyzing responses for all 3- and 5-skill level personnel, there are few shop tasks among those tasks performed by the greatest percentage.

DAFSC 32170. The 155 AFSC 32170 members also provide technical support for the career ladder. They perform in the same duties as 3- and 5-skill level members, but they are spending less time on the technical tasks. Thirty-five percent of the 7-skill level personnel were found within the Flightline Personnel job; 23 percent in the Shop Personnel job; and 22 percent within the Supervisory Personnel group. Smaller percentages were found within the Quality Assurance (4 percent) and Flightline Production (3 percent) jobs. They spend a fourth of their job time on management activities, 17 percent on administrative and supply tasks, and 9 percent in the area of training. Although 77 percent of the technicians supervise, the primary focus of their job is technical. They perform an average of 155 tasks. Representative tasks are shown in Table 7. Examples of tasks which differentiate between the specialist and technician level are shown in Table 8. The tasks which differentiate are primarily tasks which reflect management activities and fewer members performing common technical tasks.

#### Flightline vs Shop DAFSC Comparison

As stated earlier, SAC's ROLS concept of organization divides the Bomb-Navigation Systems career ladder into AMS (Shop) and OMS (Flightline) groups. This division is also clearly identified within the career ladder structure. The survey sample shop vs flightline division is shown by skill level below.

#### PERCENT ASSIGNED TO:

<u>DAFSC</u>	<u>SHOP</u>	<u>FLIGHTLINE</u>	<u>OTHER</u>
3-Skill Level (N=112)	38%	62%	-
5-Skill Level (N=199)	36%	50%	14%
7-Skill Level (N=155)	25%	42%	33%
Total (N=466)	33%	50%	17%

Differences in the jobs performed by personnel assigned to a shop or to the flightline are highlighted in Table 4. Since these members are basically performing different jobs, DAFSC information is presented below for each skill level by functional area.

TABLE 7

REPRESENTATIVE TASKS PERFORMED BY DAFSC 32170 AIRMEN  
(NUMBER OF MEMBERS: 155)

TASKS	PERCENT MEMBERS PERFORMING
C74 WRITE APR	81
C70 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	79
E137 MAKE ENTRIES ON AFTO FORMS 349	70
A7 DETERMINE WORK PRIORITIES	69
D100 MAKE ENTRIES IN OJT RECORDS	69
E141 MAKE ENTRIES ON CABINET, SAFE, OR ROOM SECURITY FORMS	68
B29 COUNSEL SUBORDINATES, SUCH AS ON JOB PROGRESSION, MILITARY-RELATED MATTERS, AND PERSONAL MATTERS	68
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	66
D95 EVALUATE PROGRESS OF TRAINEES	64
H239 INSPECT NUCLEAR HARDENED CABLES OR CONNECTORS	63
A23 SCHEDULE WORK PRIORITIES	61
D81 CONDUCT OJT	61
D85 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	61
H240 INSPECT OR SERVICE DESICCANTS	61
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	59
E120 EDIT AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	59
F174 INVENTORY EQUIPMENT OR TOOLS	59
D99 MAINTAIN TRAINING RECORDS	57
A3 COMPILE DATA FOR REPORTS	57
D84 COUNSEL TRAINEES ON TRAINING PROGRESS	56
H242 REPAIR CABLES, OTHER THAN NUCLEAR HARDENED CABLES	55
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	55
H247 SOLDER TERMINALS OR WIRES	55
A19 PLAN OR SCHEDULE WORK ASSIGNMENTS	55
B44 INTERPRET DIRECTIVES FOR SUBORDINATES	54
C71 INSPECT SUPPORT EQUIPMENT OR SPECIAL TOOLS	54
C75 WRITE RECOMMENDATIONS FOR AWARDS AND DECORATIONS	52
A14 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	50
E140 MAKE ENTRIES ON AIRCRAFT FLIGHT OR MAINTENANCE RECORD FORMS, SUCH AS AFTO FORMS 781 SERIES	48
F190 MAKE ENTRIES ON AF FORMS 2005 (ISSUE/TURN IN REQUEST)	47
D94 EVALUATE PERSONNEL FOR NEED OF TRAINING	46
E121 EXAMINE AFTO FORMS 95 (SIGNIFICANT HISTORICAL DATA) FOR RECURRING EQUIPMENT PROBLEMS	45
B28 CONDUCT SUPERVISORY ORIENTATIONS OF NEWLY ASSIGNED PERSONNEL	43
E136 MAKE ENTRIES ON AFTO FORMS 244 AND 245 (INDUSTRIAL/SUPPORT EQUIPMENT RECORD AND CONTINUATION SHEET)	43
F202 RESEARCH MICROFICHE FILES OR TECHNICAL ORDERS FOR SUPPLY REQUISITION DATA	43
F164 ANNOTATE AND ATTACH EQUIPMENT STATUS LABELS OR TAGS TO EQUIPMENT	43

TABLE 8

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 32130/50 AND 32170 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	32130/32150	32170
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	83	55
I264 REMOVE OR REPLACE AIRCRAFT DESICCANTS OR DESICCATOR ASSEMBLIES	53	28
H240 INSPECT OR SERVICE DESICCANTS	82	61
J299 REMOVE OR REPLACE AIRCRAFT RECEIVER-TRANSMITTER MODULATORS (RTM)	52	31
K309 CLEAN ASQ-151 EVS TURRET WINDOWS	55	34
L345 PERFORM ASN-136 INS SHUTDOWNS	54	34
K323 REMOVE OR REPLACE ASQ-151 EVS FLIR SCANNER ASSEMBLIES	55	35
L344 PERFORM ASN-136 INS POSITION DRIFT CHECKS	51	30
L383 PERFORM ASQ-176 OAS PREOPERATIONAL CONTROL SETTINGS	52	32
K320 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS STV SYSTEMS	55	35
L369 PERFORM ASQ-176 OAS END OF TEST OPTIONS	50	30
L372 PERFORM ASQ-176 OAS INTEGRATED KEYBOARD (IKB) CHECKOUTS	51	31
*****		
C74 WRITE APR	26	81
C70 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	28	79
A23 SCHEDULE WORK PRIORITIES	15	61
C75 WRITE RECOMMENDATIONS FOR AWARDS AND DECORATIONS	6	52
B29 COUNSEL SUBORDINATES, SUCH AS ON JOB PROGRESSION, MILITARY- RELATED MATTERS, AND PERSONAL MATTERS	24	68
A3 COMPILE DATA FOR REPORTS	14	57
A7 DETERMINE WORK PRIORITIES	27	69

## FLIGHTLINE PERSONNEL

DAFSC 32130. Seventy 3-skill level personnel indicate they perform flightline duty. This number represents 62 percent of the 3-skill level personnel in the survey sample. They spend a little over a third of their job time performing flightline maintenance on the ASQ-176 OAS, 17 percent on the ASQ-151 EVS, and 15 percent on the ASQ-176 OAS TA Radar System. Fifteen percent of their time is also spent performing general flightline maintenance. They perform an average of 108 tasks. Some of their most time-consuming tasks include:

- open or close aircraft radomes
- remove or replace aircraft OAS line replaceable units (LRU)
- clean ASQ-151 EVS turret windows
- remove or replace ASQ-151 EVS FLIR scanner assemblies
- perform ASQ-176 OAS ground cooling and system power applications

Table 9 presents representative tasks performed by these flightline airmen.

DAFSC 32150. Half (99 members) of the 5-skill level Bomb-Navigation personnel are working on the flightline. Generally, they perform the same duties as the 3-skill level personnel (time spent overlap is 80 percent); however, there are some slight differences as shown in Table 10. Five-skill level personnel are directing flightline maintenance activities indicating the beginning of work level supervisory positions. Examples of tasks performed by 5-skill level personnel are given in Table 11. They average 152 tasks.

DAFSC 32170. Seven-skill level flightline personnel represent 42 percent of the Bomb-Navigation Systems technicians. These 65 technicians are still spending half of their duty time in the same areas as the 3- and 5-skill level personnel (time spent overlap is 67 percent). Eighty-two percent indicate they supervise, but many of these are at the worker level rather than management level. Forty-three actually indicate their job title as "flightline supervisor". Their most time-consuming tasks do indicate their increased level of responsibility. For example, they

- direct flightline maintenance activities
- inspect personnel for compliance with military standards
- write APR
- schedule work priorities

Representative tasks (average is 138) for this group are given in Table 12. Tasks which distinguish between the specialists and technician level are shown in Table 13.

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY DAFSC 32130 FLIGHTLINE PERSONNEL  
(NUMBER OF MEMBERS: 70)

TASKS	PERCENT MEMBERS PERFORMING
K309 CLEAN ASQ-151 EVS TURRET WINDOWS	99
I255 OPEN OR CLOSE AIRCRAFT RADOMES	97
I267 REMOVE OR REPLACE AIRCRAFT OAS LINE REPLACEABLE UNITS (LRU)	94
K323 REMOVE OR REPLACE ASQ-151 EVS FLIR SCANNER ASSEMBLIES	94
K324 REMOVE OR REPLACE ASQ-151 EVS FLIR SIGNAL PROCESSORS	91
K320 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS STV SYSTEMS	91
I261 REMOVE OR REPLACE AIRCRAFT ACCESS PANELS	90
K328 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ASSEMBLIES	90
K318 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS FLIR SYSTEMS	90
J299 REMOVE OR REPLACE AIRCRAFT RECEIVER-TRANSMITTER MODULATORS (RTM)	90
H239 INSPECT NUCLEAR HARDENED CABLES OR CONNECTORS	89
L370 PERFORM ASQ-176 OAS GMCP LOADINGS	89
L345 PERFORM ASN-136 INS SHUTDOWNS	89
L371 PERFORM ASQ-176 OAS GROUND COOLING AND SYSTEM POWER APPLICATIONS	87
I260 PLACE RF WARNING SIGNS AND LIGHTS	87
K329 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ELECTRONICS	87
J300 REMOVE OR REPLACE AIRCRAFT REINSTRUMENTED TERRAIN COMPUTERS (RTC)	87
H240 INSPECT OR SERVICE DESICCANTS	86
L380 PERFORM ASQ-176 OAS PHYSICAL INSPECTIONS OF RADOMES	86
L397 REMOVE OR REPLACE AIRCRAFT ASN-136 INERTIAL MEASUREMENT EQUIPMENT (IME)	86
I269 RESEARCH AIRCRAFT TECHNICAL ORDER (TO) SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	86
I264 REMOVE OR REPLACE AIRCRAFT DESICCANTS OR DESICCATOR ASSEMBLIES	86
L383 PERFORM ASQ-176 OAS PREOPERATIONAL CONTROL SETTINGS	84
L375 PERFORM ASQ-176 OAS NAVIGATOR AREA PHYSICAL INSPECTIONS	84
K333 REMOVE OR REPLACE ASQ-151 EVS TURRET WINDOWS	84
L391 PERFORM ASQ-176 OAS SYSTEM AND COOLING SHUTDOWNS	83
L364 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS SHUTDOWNS	83
K313 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS FORWARD LOOKING INFRARED (FLIR) SYSTEMS	83
L343 PERFORM ASN-136 INITIALIZATION AND INERTIAL MEASUREMENT EQUIPMENT (IME)/GMCP CHECKOUTS	81
K314 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS STEERABLE TELEVISION (STV) SYSTEMS	81
L344 PERFORM ASN-136 INS POSITION DRIFT CHECKS	81
L398 REMOVE OR REPLACE AIRCRAFT ASQ-176 OAS LRU	80
L362 PERFORM ASQ-176 OAS COMPUTATIONAL SYSTEM SHUTDOWNS	80

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 32130  
AND 32150 FLIGHTLINE PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	32130	32150
K327 REMOVE OR REPLACE ASQ-151 EVS PILOTS NARROW FIELD-OF-VIEW SWITCHES	10	58
L357 PERFORM ASQ-176 OAS AUTOPILOT SYSTEM INTERFACE CHECKOUTS	19	61
L368 PERFORM ASQ-176 OAS ELECTRONIC COUNTERMEASURES (ECM) BLANKING INTERFACE CHECKS	41	81
C74 WRITE APR	1	40
L394 PERFORM ASQ-176 OAS WEAPON RELEASE SIMULATION CHECKS	33	72
J296 PERFORM TA SYSTEM RADIO FREQUENCY (RF) CHECKS	14	53
L355 PERFORM ASQ-176 OAS APN-69 BLANKING TIE-IN CHECKS	34	72
I249 BRIEF OR DEBRIEF FLIGHT CREWS	41	79
K326 REMOVE OR REPLACE ASQ-151 EVS INDICATED AIRSPEED TRANSDUCERS	33	70
L385 PERFORM ASQ-176 OAS RADAR AUTOMATIC FREQUENCY CONTROL (AFC) CHECKS	30	67
D85 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	7	43
L356 PERFORM ASQ-176 OAS ATTITUDE HEADING REFERENCE SYSTEM (AHRS) INTERFACE CHECKS	27	63
L348 PERFORM ASQ-176 OAS ANTENNA BORESIGHT LEVELINGS	34	69

TABLE 11

REPRESENTATIVE TASKS PERFORMED BY DAFSC 32150 FLIGHTLINE PERSONNEL  
(NUMBER OF MEMBERS: 99)

TASKS	PERCENT MEMBERS PERFORMING
I255 OPEN OR CLOSE AIRCRAFT RADOMES	90
K323 REMOVE OR REPLACE ASQ-151 EVS FLIR SCANNER ASSEMBLIES	90
K324 REMOVE OR REPLACE ASQ-151 EVS FLIR SIGNAL PROCESSORS	90
I267 REMOVE OR REPLACE AIRCRAFT OAS LINE REPLACEABLE UNITS (LRU)	89
K309 CLEAN ASQ-151 EVS TURRET WINDOWS	89
L345 PERFORM ASN-136 INS SHUTDOWNS	89
K333 REMOVE OR REPLACE ASQ-151 EVS TURRET WINDOWS	89
K328 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ASSEMBLIES	88
K329 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ELECTRONICS	88
L364 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS SHUTDOWNS	88
K318 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS FLIR SYSTEMS	88
K320 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS STV SYSTEMS	88
K313 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS FORWARD LOOKING INFRARED (FLIR) SYSTEMS	88
K314 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS STEERABLE TELEVISION (STV) SYSTEMS	88
L341 ISOLATE MALFUNCTIONS WITHIN INERTIAL NAVIGATION SYSTEMS (INS)	88
L370 PERFORM ASQ-176 OAS GMCP LOADINGS	88
I261 REMOVE OR REPLACE AIRCRAFT ACCESS PANELS	87
L371 PERFORM ASQ-176 OAS GROUND COOLING AND SYSTEM POWER APPLICATIONS	87
L363 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS POWER APPLICATION AND TURN ON PROCEDURES	87
L362 PERFORM ASQ-176 OAS COMPUTATIONAL SYSTEM SHUTDOWNS	87
J299 REMOVE OR REPLACE AIRCRAFT RECEIVER-TRANSMITTER MODULATORS (RTM)	87
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	87
K316 PERFORM ASQ-151 EVS SYMBOL CHECKS	87
L397 REMOVE OR REPLACE AIRCRAFT ASN-136 INERTIAL MEASUREMENT EQUIPMENT (IME)	86
I269 RESEARCH AIRCRAFT TECHNICAL ORDER (TO) SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	86
L343 PERFORM ASN-136 INITIALIZATION AND INERTIAL MEASUREMENT EQUIPMENT (IME)/GMCP CHECKOUTS	86
L383 PERFORM ASQ-176 OAS PREOPERATIONAL CONTROL SETTINGS	86
H242 REPAIR CABLES, OTHER THAN NUCLEAR HARDENED CABLES	86
L358 PERFORM ASQ-176 OAS AVIONICS CONTROL UNIT (ACU) OPERATIONAL CHECKOUTS	86
I271 SAFETY WIRE COMPONENT MOUNTS OR CONNECTING PLUGS ON AIRCRAFT	86

TABLE 12

REPRESENTATIVE TASKS PERFORMED BY DAFSC 32170 FLIGHTLINE PERSONNEL  
(NUMBER OF MEMBERS: 65)

TASKS	PERCENT MEMBERS PERFORMING
C74 WRITE APR	86
I251 DRIVE FLIGHTLINE MAINTENANCE VEHICLES	80
E140 MAKE ENTRIES ON AIRCRAFT FLIGHT OR MAINTENANCE RECORD FORMS, SUCH AS AFTO FORMS 781 SERIES	80
C70 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	78
E137 MAKE ENTRIES ON AFTO FORMS 349	77
I267 REMOVE OR REPLACE AIRCRAFT OAS LINE REPLACEABLE UNITS (LRU)	74
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	74
B32 DIRECT FLIGHTLINE MAINTENANCE ACTIVITIES	72
A7 DETERMINE WORK PRIORITIES	72
I249 BRIEF OR DEBRIEF FLIGHT CREWS	72
I269 RESEARCH AIRCRAFT TECHNICAL ORDER (TO) SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	72
H239 INSPECT NUCLEAR HARDENED CABLES OR CONNECTORS	72
L364 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS SHUTDOWNS	72
I255 OPEN OR CLOSE AIRCRAFT RADOMES	72
K313 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS FORWARD LOOKING INFRARED (FLIR) SYSTEMS	71
K320 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS STV SYSTEMS	71
K318 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS FLIR SYSTEMS	71
L398 REMOVE OR REPLACE AIRCRAFT ASQ-176 OAS LRU	71
L370 PERFORM ASQ-176 OAS GMCP LOADINGS	71
K323 REMOVE OR REPLACE ASQ-151 EVS FLIR SCANNER ASSEMBLIES	69
K328 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ASSEMBLIES	69
L341 ISOLATE MALFUNCTIONS WITHIN INERTIAL NAVIGATION SYSTEMS (INS)	69
K314 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS STEERABLE TELEVISION (STV) SYSTEMS	69
K324 REMOVE OR REPLACE ASQ-151 EVS FLIR SIGNAL PROCESSORS	69
K329 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ELECTRONICS	69
L340 ISOLATE MALFUNCTIONS WITHIN CONTROLS AND DISPLAYS	69
L343 PERFORM ASN-136 INITIALIZATION AND INERTIAL MEASUREMENT EQUIPMENT (IME)/GMCP CHECKOUTS	69
L397 REMOVE OR REPLACE AIRCRAFT ASN-136 INERTIAL MEASUREMENT EQUIPMENT (IME)	69
I259 PERFORM OAS POWER OFF CHECKOUTS	69
K309 CLEAN ASQ-151 EVS TURRET WINDOWS	69
L336 ISOLATE MALFUNCTIONS WITHIN ASQ-176 OAS SUBSYSTEMS USING FLIGHT CONTROL PROGRAMS (FCP)	68
L354 PERFORM ASQ-176 OAS ANTENNA TILT GAIN AND STABILIZATION RATIO ADJUSTMENTS	68



TABLE 13

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 32150  
AND 32170 FLIGHTLINE PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	32150	32170
L367 PERFORM ASQ-176 OAS DUMMY RADIATE CHECKS	80	48
I264 REMOVE OR REPLACE AIRCRAFT DESICCANTS OR DESICCATOR ASSEMBLIES	86	55
L355 PERFORM ASQ-176 OAS APN-69 BLANKING TIE-IN CHECKS	72	43
L368 PERFORM ASQ-176 OAS ELECTRONIC COUNTERMEASURES (ECM) BLANKING INTERFACE CHECKS	81	52
L352 PERFORM ASQ-176 OAS ANTENNA SCAN SPEED CHECKS	79	51
L357 PERFORM ASQ-176 OAS AUTOPILOT SYSTEM INTERFACE CHECKOUTS	61	34
L350 PERFORM ASQ-176 OAS ANTENNA HYDRAULIC SYSTEM LEAKAGE CHECKS AND DRAINING PROCEDURES	71	45
K315 PERFORM ASQ-151 EVS ANCILLARY EQUIPMENT TIE-IN CHECKS	83	57
L359 PERFORM ASQ-176 OAS BOMB CIRCUITS INTERFACE CHECKS	83	57
L377 PERFORM ASQ-176 OAS NAVIGATOR POSITION DISPLAY CHECKS	81	55
L386 PERFORM ASQ-176 OAS RADAR NAVIGATOR MANAGEMENT PANEL (RNMP) CHECKOUTS	82	57
*****		
C74 WRITE APR	40	86
B32 DIRECT FLIGHTLINE MAINTENANCE ACTIVITIES	28	72
C70 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	36	78
A7 DETERMINE WORK PRIORITIES	33	72
A23 SCHEDULE WORK PRIORITIES	22	60
C67 INSPECT AIRCRAFT MAINTENANCE ACTIONS	22	58
B44 INTERPRET DIRECTIVES FOR SUBORDINATES	11	46

## SHOP PERSONNEL

DAFSC 32130. Forty-two 3-skill level shop personnel spend 27 percent of their time performing general field shop maintenance; 13 percent performing field shop maintenance on ASQ-176 OAS LRU using ASM-653; and 12 percent performing field shop maintenance on EVS/OAS LRU using ASM-479AX test sets. Their remaining time is divided among the remaining OAS systems. Examples of their most time-consuming tasks include:

- remove or replace printed circuit boards
- make entries on AFTO Forms 350 (Reparable Item Processing Tag)
- make entries on AFTO Forms 349
- pack or unpack OAS LRU
- research illustrated parts breakdown (IPB) for OAS Field Shop maintenance
- assemble or disassemble offensive avionics system (OAS) line replaceable units (LRU) or LRU subassemblies

On the average they perform 110 tasks. Representative tasks are presented in Table 14.

DAFSC 32150. These 72 shop members spend the major portion of their job time in the same areas as the 3-skill level shop members. However, they spend less time on general maintenance and begin to maintain the test sets. They also begin to assume a supervisory role in the shop setting. For example, Table 15 highlights tasks which are performed by the 5-level. These show technical tasks, such as isolate malfunctions within ASM-479AX test adapters, and supervisory tasks, such as write APR. Performing an average of 198 tasks, representative tasks are listed in Table 16.

DAFSC 32170. The technicians assigned to the shop (N=38) are primarily performing a technical job. However, they also perform a role as first-line supervisor. Along with the specialists, two of their most time-consuming tasks are "Make entries on AFTO Forms 349 and 350". Other tasks reflecting their time include:

- inspect in-shop maintenance actions
- certify status of reparable, serviceable, or condemned parts
- conduct OJT

Fifty-five percent indicate their present job is Field Supervisor and 40 percent Field Shop Technician. Typical tasks are given in Table 17. Tasks which differentiate between the 5- and 7-level shop member generally reflect a higher administrative role (see Table 18). They perform an average of 235 tasks, which is a much wider range than performed by flightline technicians.

TABLE 14

REPRESENTATIVE TASKS PERFORMED BY DAFSC 32130 SHOP PERSONNEL  
(NUMBER OF MEMBERS: 42)

TASKS	PERCENT MEMBERS PERFORMING
H247 SOLDER TERMINALS OR WIRES	98
N452 REMOVE OR REPLACE PRINTED CIRCUIT BOARDS	93
N436 PACK OR UNPACK OAS LRU	93
N435 PACK OR UNPACK ELECTROSTATIC SENSITIVE DEVICES (ESD)	93
N456 RESEARCH ILLUSTRATED PARTS BREAKDOWN (IPB) FOR OAS FIELD SHOP MAINTENANCE	90
N421 ASSEMBLE OR DISASSEMBLE OFFENSIVE AVIONICS SYSTEM (OAS) LINE REPLACEABLE UNITS (LRU) OR LRU SUBASSEMBLIES	90
N425 CLEAN DUST FILTERS	90
N455 RESEARCH FIELD SHOP TECHNICAL ORDER SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	88
N426 CLEAN OAS LRU OR LRU SUBASSEMBLIES	88
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	86
E137 MAKE ENTRIES ON AFTO FORMS 349	86
N447 REMOVE OR REPLACE CONNECTOR PLUGS	83
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	83
N449 REMOVE OR REPLACE DUST FILTERS	81
H240 INSPECT OR SERVICE DESICCANTS	81
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	81
N441 PERFORM IN-SHOP CORROSION CONTROL PROCEDURES ON LRU	79
H237 CLEAN ELECTRO-OPTICAL VIEWING SYSTEMS (EVS) LENS	79
N448 REMOVE OR REPLACE DESICCANTS DURING FIELD SHOP MAINTENANCE	79
H242 REPAIR CABLES, OTHER THAN NUCLEAR HARDENED CABLES	79
N450 REMOVE OR REPLACE ESD	76
N427 CLEAN OAS SUPPORT EQUIPMENT	76
H238 CLEAN EVS MIRRORS	76
N446 REMOVE OR REPLACE CIRCUIT COMPONENTS	74
N437 PACK OR UNPACK OAS MODULES OR SUBASSEMBLIES	74
N438 PERFORM CONTINUITY CHECKS OF INDIVIDUAL CIRCUITS OR CIRCUIT COMPONENTS	74
N432 LACE OR REMOVE LACING FROM INTERNAL LRU WIRING ASSEMBLIES	74
F202 RESEARCH MICROFICHE FILES OR TECHNICAL ORDERS FOR SUPPLY REQUISITION DATA	71
R569 REMOVE OR REPLACE FLIR SYNC DRIVER SRU	71
R572 REMOVE OR REPLACE OAS MULTIFUNCTION DISPLAY (MFD) SRU	71
0461 ALIGN REINSTRUMENTED TERRAIN COMPUTERS (RTC)	69
W682 PERFORM OPERATIONAL CHECKS OF INERTIAL MEASUREMENT UNITS (IMU)	69
R567 REMOVE OR REPLACE EVS MONITOR SRU	69
H244 REPAIR NUCLEAR HARDENED CONNECTORS OR MULTIPIN CONNECTORS	69
F174 INVENTORY EQUIPMENT OR TOOLS	67

TABLE 15

REPRESENTATIVE TASKS PERFORMED BY DAFSC 32150 SHOP PERSONNEL  
(NUMBER OF MEMBERS: 72)

TASKS	PERCENT MEMBERS PERFORMING
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	94
N452 REMOVE OR REPLACE PRINTED CIRCUIT BOARDS	93
N436 PACK OR UNPACK OAS LRU	93
N435 PACK OR UNPACK ELECTROSTATIC SENSITIVE DEVICES (ESD)	93
E137 MAKE ENTRIES ON AFTO FORMS 349	92
N421 ASSEMBLE OR DISASSEMBLE OFFENSIVE AVIONICS SYSTEM (OAS) LINE REPLACEABLE UNITS (LRU) OR LRU SUBASSEMBLIES	92
H247 SOLDER TERMINALS OR WIRES	92
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	92
N437 PACK OR UNPACK OAS MODULES OR SUBASSEMBLIES	90
N448 REMOVE OR REPLACE DESICCANTS DURING FIELD SHOP MAINTENANCE	90
N456 RESEARCH ILLUSTRATED PARTS BREAKDOWN (IPB) FOR OAS FIELD SHOP MAINTENANCE	89
N441 PERFORM IN-SHOP CORROSION CONTROL PROCEDURES ON LRU	89
N425 CLEAN DUST FILTERS	89
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	89
N455 RESEARCH FIELD SHOP TECHNICAL ORDER SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	88
N426 CLEAN OAS LRU OR LRU SUBASSEMBLIES	88
O467 INSPECT RTC	85
N449 REMOVE OR REPLACE DUST FILTERS	85
H240 INSPECT OR SERVICE DESICCANTS	83
H242 REPAIR CABLES, OTHER THAN NUCLEAR HARDENED CABLES	83
O461 ALIGN REINSTRUMENTED TERRAIN COMPUTERS (RTC)	82
N427 CLEAN OAS SUPPORT EQUIPMENT	82
N438 PERFORM CONTINUITY CHECKS OF INDIVIDUAL CIRCUITS OR CIRCUIT COMPONENTS	82
H236 CLEAN CATHODE RAY TUBES (CRT)	82
R575 REMOVE OR REPLACE SERVO CONTROL UNIT (SCU) SRU	81
H238 CLEAN EVS MIRRORS	81
N450 REMOVE OR REPLACE ESD	79
R560 REMOVE OR REPLACE AVIONICS CONTROL UNIT (ACU) SRU	79
N430 INSPECT INCOMING EQUIPMENT	79
N447 REMOVE OR REPLACE CONNECTOR PLUGS	79
N432 LACE OR REMOVE LACING FROM INTERNAL LRU WIRING ASSEMBLIES	79
R558 PERFORM EVS LRU OPERATIONAL CHECKS USING ASM-479AX TEST SET	78
R567 REMOVE OR REPLACE EVS MONITOR SRU	78
N442 PERFORM IN-SHOP CORROSION CONTROL PROCEDURES ON SUPPORT EQUIPMENT	78
N446 REMOVE OR REPLACE CIRCUIT COMPONENTS	78

TABLE 16

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 32130  
AND 32150 SHOP PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	32130	32150
D81 CONDUCT OJT	10	61
P509 PERFORM OPERATIONAL CHECKS OF RADAR INTERFACE UNITS (RIU) USING ASM-653 SAT	17	67
C74 WRITE APR	0	49
S594 ISOLATE MALFUNCTIONS WITHIN ASM-479AX TEST ADAPTERS	5	51
P489 ISOLATE MALFUNCTIONS WITHIN TERRAIN TEST CONTROLS USING ASM-653 SAT	17	61
S590 CALIBRATE VIDEO GENERATORS	0	43
P510 PERFORM OPERATIONAL CHECKS OF RADAR SCAN CONVERTERS (RSC) USING ASM-653 SAT	17	60
S588 CALIBRATE PROGRAMMABLE PULSE GENERATORS (PPG)	2	44
P481 ISOLATE MALFUNCTIONS WITHIN ASQ-176 OAS SYSTEM RELAY FRAMES USING ASM-653 SAT	17	58
P502 PERFORM OPERATIONAL CHECKS OF DTUCM USING ASM-653 SAT	24	65
P516 PERFORM RADAR ANTENNA SYNCHRO ALIGNMENTS USING ASM-653 SAT	21	62
D85 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	21	62
W676 ISOLATE MALFUNCTIONS WITHIN ASM-641 INS TEST SETS	10	50
A7 DETERMINE WORK PRIORITIES	7	47
P500 PERFORM OPERATIONAL CHECKS OF DATA TRANSFER UNIT CARTRIDGES (DTUC) USING ASM-653 SAT	31	71
P521 PERFORM TERRAIN TEST CONTROL ALIGNMENTS USING ASM-653 SAT	14	54

TABLE 17

REPRESENTATIVE TASKS PERFORMED BY DAFSC 32170 SHOP PERSONNEL  
(NUMBER OF MEMBERS: 38)

TASKS	PERCENT MEMBERS PERFORMING
E137 MAKE ENTRIES ON AFTO FORMS 349	97
E141 MAKE ENTRIES ON CABINET, SAFE, OR ROOM SECURITY FORMS	97
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	95
F165 CERTIFY STATUS OF REPARABLE, SERVICEABLE, OR CONDEMNED PARTS	95
F190 MAKE ENTRIES ON AF FORMS 2005 (ISSUE/TURN IN REQUEST)	92
D81 CONDUCT OJT	89
C74 WRITE APR	89
D100 MAKE ENTRIES IN OJT RECORDS	89
C69 INSPECT IN-SHOP MAINTENANCE ACTIONS	87
N421 ASSEMBLE OR DISASSEMBLE OFFENSIVE AVIONICS SYSTEM (OAS) LINE REPLACEABLE UNITS (LRU) OR LRU SUBASSEMBLIES	87
N455 RESEARCH FIELD SHOP TECHNICAL ORDER SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	87
A7 DETERMINE WORK PRIORITIES	87
N456 RESEARCH ILLUSTRATED PARTS BREAKDOWN (IPB) FOR OAS FIELD SHOP MAINTENANCE	87
N435 PACK OR UNPACK ELECTROSTATIC SENSITIVE DEVICES (ESD)	87
N436 PACK OR UNPACK OAS LRU	87
N437 PACK OR UNPACK OAS MODULES OR SUBASSEMBLIES	87
B29 COUNSEL SUBORDINATES, SUCH AS ON JOB PROGRESSION, MILITARY- RELATED MATTERS, AND PERSONAL MATTERS	87
H247 SOLDER TERMINALS OR WIRES	87
C70 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	84
N452 REMOVE OR REPLACE PRINTED CIRCUIT BOARDS	84
R558 PERFORM EVS LRU OPERATIONAL CHECKS USING ASM-479AX TEST SET	84
E136 MAKE ENTRIES ON AFTO FORMS 244 AND 245 (INDUSTRIAL/SUPPORT EQUIPMENT RECORD AND CONTINUATION SHEET)	84
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	84
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	84
A23 SCHEDULE WORK PRIORITIES	82
O467 INSPECT RTC	82
D85 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	82
N426 CLEAN OAS LRU OR LRU SUBASSEMBLIES	82
N441 PERFORM IN-SHOP CORROSION CONTROL PROCEDURES ON LRU	82
N442 PERFORM IN-SHOP CORROSION CONTROL PROCEDURES ON SUPPORT EQUIPMENT	82
N427 CLEAN OAS SUPPORT EQUIPMENT	82
N438 PERFORM CONTINUITY CHECKS OF INDIVIDUAL CIRCUITS OR CIRCUIT COMPONENTS	82
N425 CLEAN DUST FILTERS	82
H240 INSPECT OR SERVICE DESICCANTS	82

TABLE 18

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 32150  
AND 32170 SHOP PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	32150	32170
A23 SCHEDULE WORK PRIORITIES	19	82
C69 INSPECT IN-SHOP MAINTENANCE ACTIONS	29	87
B29 COUNSEL SUBORDINATES, SUCH AS ON JOB PROGRESSION, MILITARY-RELATED MATTERS, AND PERSONAL MATTERS	35	87
C70 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	35	84
E120 EDIT AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	31	79
D95 EVALUATE PROGRESS OF TRAINEES	35	79
B44 INTERPRET DIRECTIVES FOR SUBORDINATES	19	61
A19 PLAN OR SCHEDULE WORK ASSIGNMENTS	22	63
D100 MAKE ENTRIES IN OJT RECORDS	49	89
C74 WRITE APR	49	89
C75 WRITE RECOMMENDATIONS FOR AWARDS AND DECORATIONS	7	47

## ANALYSIS OF AFSC 321X0 AFR 39-1 SPECIALTY DESCRIPTIONS

Survey data were compared to the AFR 39-1 Specialty Descriptions for the Bomb-Navigation Systems career ladder, AFSC 321X0. These descriptions are intended to give a broad overview of the duties and tasks performed in each skill level of a specialty. The specialty description appears to adequately reflect the responsibility of the Bomb-Navigation Systems positions at present.

### SPECIALTY TRAINING

Occupational survey data are a source of information which may be used to determine requirements for training and relevancy of training documents. OSR factors which may be used to review training are primarily percent members performing tasks and, secondarily, training emphasis (TE) and task difficulty (TD) ratings. TE ratings indicate which tasks experienced personnel in the career ladder feel are important for newly enlisted members to know to be able to do their job. These ratings do not necessarily imply that training must be in a resident training course; training may be provided through such means as OJT, FTD, and CDCs. Senior personnel rate each task on a scale of 0 through 9, 0 indicating no training is required and 9 indicating that a very high emphasis should be placed on training that task. These ratings are processed to produce a rank-order listing of tasks from a high degree of emphasis to no training required. The TD ratings provide a guide as to how difficult the tasks are to learn. The average TD rating is set to 5 so this value can be used as a reference to determine how much time will be needed to teach task knowledge or performance. These factors may assist managers in determining the most appropriate tasks to train and the most appropriate type of training: formal training (structure), Career Development Course (CDC), or OJT (supplementary or advanced).

#### First-Enlistment Personnel

First-enlistment personnel are the target group for the initial resident training course. OSR data provide information which can be used by training personnel to develop or review training programs. For example, percent members performing task data are available for first-job (1-24 months TAFMS) and first-enlistment (1-48 months TAFMS) groups. Background data provide such information as areas where respondents work and equipment used. Data from the career ladder structure analysis show the type of jobs being performed by newly assigned airmen (see Figure 2). TE and TD ratings provide a consensus of opinion from experienced raters in what they consider important for training and how difficult the tasks are to learn.



321X0 SPECIALTY JOBS  
FIRST-ENLISTMENT PERSONNEL  
(N=144)

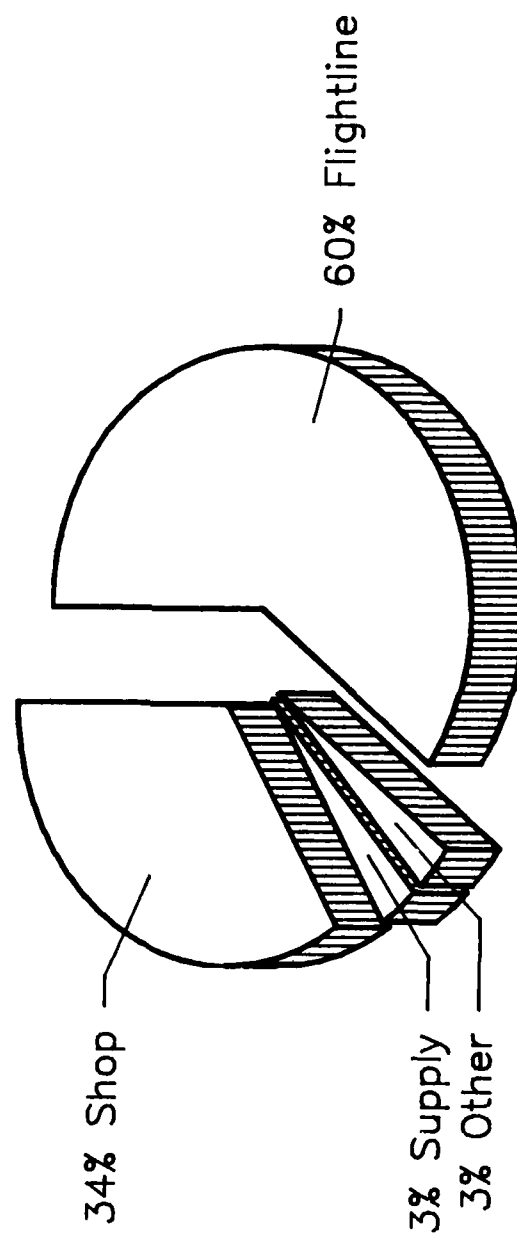


Figure 2

First-enlistment personnel comprise 31 percent of all AFSC 321X0 personnel. Of the 144 first-enlistment personnel, 62 percent are assigned to the flightline and 36 percent assigned to field shop maintenance. In the past, all personnel completing the basic resident course were assigned to the flightline. Before being assigned to a shop, they were normally sent to a 5-level course. The present policy does not strictly follow the previous guidelines, and first-termers are being located in shops either after the basic resident course or after serving a short time on the flightline. The percentage, as with the entire career ladder, still heavily favors those assigned to flightline (about 2 to 1).

The jobs performed by Flightline Personnel and Shop Personnel, however, are very different. Table 19 shows the time spent in the various duties by the total 1-48 month sample and for those assigned to flightline or shop areas. As shown in Table 19, the time spent by first-enlistment personnel is very diversified. The largest concentration shown is 22 percent spent performing flightline maintenance on ASQ-176 OAS. In looking at the time spent individually by flightline and shop personnel, this diversity begins to disappear. Representative tasks for the total sample of first-enlistment personnel are shown in Table 20. Based on percentages, the tasks most frequently performed are related to flightline duties. Tables 21 and 22 show examples of tasks performed by first-term Flightline and Shop Personnel. Typical tasks for flightline first-termers include:

- clean ASQ-151 EVS turret windows
- open or close aircraft radomes
- remove or replace OAS line replaceable units
- remove or replace ASQ-151 EVS FLIR scanner assemblies or signal processors

On the other hand, typical tasks for first enlistment Shop Personnel include:

- solder terminals or wires
- pack or unpack electrostatic sensitive devices (ESD) or OAS LRU
- remove or replace circuit boards
- assemble or disassemble offensive avionics system (OAS) line replaceable units (LRU) or LRU subassemblies

As would be expected, the equipment used by first-enlistment personnel also varies. Table 23 presents the equipment listed in the job inventory in order of percent of all first-enlistment personnel using that particular piece. Percent members using each piece of equipment is also shown by shop and flightline group membership. While there is some equipment that is used commonly, such as the multimeter or oscilloscope, those in the shop are required to use a much wider range of equipment than those serving on the flightline.

TABLE 19

AVERAGE PERCENT TIME SPENT ON DUTIES BY FIRST ENLISTMENT PERSONNEL  
(PERCENT MEMBERS PERFORMING)\*

DUTIES	1-48 TOTAL (N=144)	1-48 FLIGHTLINE (N=89)	1-48 SHOP (N=53)
A ORGANIZING AND PLANNING	-	-	-
B DIRECTING AND IMPLEMENTING	-	-	-
C INSPECTING AND EVALUATING	1	1	-
D TRAINING	1	1	1
E PERFORMING ADMINISTRATIVE TASKS	5	4	5
F PERFORMING GENERAL SUPPLY TASKS	4	3	6
G PERFORMING CUT TASKS	2	3	1
H PERFORMING GENERAL MAINTENANCE TASKS	6	5	7
I PERFORMING GENERAL FLIGHTLINE MAINTENANCE TASK	9	14	1
J PERFORMING FLTLINE MAINT ON ASQ-176 OAS TA RADAR SYS	10	16	-
K PERFORMING FLTLINE MAINT ON ASQ-151 EVS	10	16	1
L PERFORMING FLTLINE MAINT ON ASQ-176 OAS	22	33	1
M PERFORMING FLTLINE MAINT ON APQ-166 SR SYSTEM	1	2	-
N PERFORMING GENERAL FIELD SHOP MAINTENANCE TASKS	9	-	25
O PERFORMING FIELD SHOP MAINT ON ASM-46B COMPUTER TEST SETS, NRTC TEST SETS, AND RTC	1	-	4
P PERFORMING FIELD SHOP MAINT ON ASQ-176 OAS LRU USING ASM-653 SAT	6	-	15
Q PERFORMING FIELD SHOP MAINT ON ASM-653 SAT	1	-	2
R PERFORMING FIELD SHOP MAINT ON EVS/OAS LRU USING ASM-479AX TEST SETS	5	-	12
S PERFORMING FIELD SHOP MAINT ON ASM-479AX TEST SET	1	-	2
T PERFORMING FIELD SHOP MAINT ON EVS LRU USING ASM-470 EVS TEST SET	2	-	6
U PERFORMING FIELD SHOP MAINT ON ASM-470 EVS TEST SETS	1	-	1
V PERFORMING FIELD SHOP MAINT ON ASM-661 TMATS AND TM ASSEMBLIES	1	-	2
W PERFORMING FIELD SHOP MAINT ON ASM-641 INS TEST SETS AND INS LRU	1	-	3
X PERFORMING FIELD SHOP MAINT ON SMDPS	-	-	-
Y PERFORMING FLD SHOP MAINT ON ASQ-176 OAS LRU AND APQ-166 STRATEGIC RADAR LRU USING APM-440 RADAR TEST SET	1	-	3

\* Columns may not add up to 100 percent due to rounding  
- Indicates less than 1 percent

TABLE 20

REPRESENTATIVE TASKS PERFORMED BY ALL AIRMEN WITH 1-48 MONTHS TAFMS  
(NUMBER OF MEMBERS: 144)

TASKS	PERCENT MEMBERS PERFORMING
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	83
H240 INSPECT OR SERVICE DESICCANTS	82
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	80
E137 MAKE ENTRIES ON AFTO FORMS 349	80
H239 INSPECT NUCLEAR HARDENED CABLES OR CONNECTORS	76
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	75
H247 SOLDER TERMINALS OR WIRES	73
H242 REPAIR CABLES, OTHER THAN NUCLEAR HARDENED CABLES	72
I255 OPEN OR CLOSE AIRCRAFT RADOMES	61
K309 CLEAN ASQ-151 EVS TURRET WINDOWS	60
I267 REMOVE OR REPLACE AIRCRAFT OAS LINE REPLACEABLE UNITS (LRU)	59
K323 REMOVE OR REPLACE ASQ-151 EVS FLIR SCANNER ASSEMBLIES	59
K324 REMOVE OR REPLACE ASQ-151 EVS FLIR SIGNAL PROCESSORS	59
H237 CLEAN ELECTRO-OPTICAL VIEWING SYSTEMS (EVS) LENS	59
K320 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS STV SYSTEMS	58
L370 PERFORM ASQ-176 OAS GMCP LOADINGS	58
K328 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ASSEMBLIES	57
K329 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ELECTRONICS	57
K318 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS FLIR SYSTEMS	57
L364 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS SHUTDOWNS	56
J299 REMOVE OR REPLACE AIRCRAFT RECEIVER-TRANSMITTER MODULATORS (RTM)	56
I264 REMOVE OR REPLACE AIRCRAFT DESICCANTS OR DESICCATOR ASSEMBLIES	56
I260 PLACE RF WARNING SIGNS AND LIGHTS	56
I271 SAFETY WIRE COMPONENT MOUNTS OR CONNECTING PLUGS ON AIRCRAFT	56
L345 PERFORM ASN-136 INS SHUTDOWNS	56
K313 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS FORWARD LOOKING INFRARED (FLIR) SYSTEMS	56
I269 RESEARCH AIRCRAFT TECHNICAL ORDER (TO) SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	56
I261 REMOVE OR REPLACE AIRCRAFT ACCESS PANELS	55
K314 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS STEERABLE TELEVISION (STV) SYSTEMS	55
H238 CLEAN EVS MIRRORS	55
L371 PERFORM ASQ-176 OAS GROUND COOLING AND SYSTEM POWER APPLICATIONS	54
J300 REMOVE OR REPLACE AIRCRAFT REINSTRUMENTED TERRAIN COMPUTERS (RTC)	54

TABLE 21

REPRESENTATIVE TASKS PERFORMED BY 1-48 MONTHS TAFMS FLIGHTLINE PERSONNEL  
(NUMBER OF MEMBERS: 89)

TASKS	PERCENT MEMBERS PERFORMING
K309 CLEAN ASQ-151 EVS TURRET WINDOWS	96
I255 OPEN OR CLOSE AIRCRAFT RADOMES	92
I267 REMOVE OR REPLACE AIRCRAFT OAS LINE REPLACEABLE UNITS (LRU)	91
K323 REMOVE OR REPLACE ASQ-151 EVS FLIR SCANNER ASSEMBLIES	91
K324 REMOVE OR REPLACE ASQ-151 EVS FLIR SIGNAL PROCESSORS	91
L370 PERFORM ASQ-176 OAS GMCP LOADINGS	89
J299 REMOVE OR REPLACE AIRCRAFT RECEIVER-TRANSMITTER MODULATORS (RTM)	89
K328 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ASSEMBLIES	88
I260 PLACE RF WARNING SIGNS AND LIGHTS	88
K329 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ELECTRONICS	88
K320 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS STV SYSTEMS	88
I261 REMOVE OR REPLACE AIRCRAFT ACCESS PANELS	87
L364 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS SHUTDOWNS	87
L345 PERFORM ASN-136 INS SHUTDOWNS	87
L371 PERFORM ASQ-176 OAS GROUND COOLING AND SYSTEM POWER APPLICATIONS	85
H239 INSPECT NUCLEAR HARDENED CABLES OR CONNECTORS	85
J300 REMOVE OR REPLACE AIRCRAFT REINSTRUMENTED TERRAIN COMPUTERS (RTC)	85
K318 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS FLIR SYSTEMS	85
K313 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS FORWARD LOOKING INFRARED (FLIR) SYSTEMS	84
L383 PERFORM ASQ-176 OAS PREOPERATIONAL CONTROL SETTINGS	83
I271 SAFETY WIRE COMPONENT MOUNTS OR CONNECTING PLUGS ON AIRCRAFT	83
K314 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS STEERABLE TELEVISION (STV) SYSTEMS	83
I269 RESEARCH AIRCRAFT TECHNICAL ORDER (TO) SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	83
K333 REMOVE OR REPLACE ASQ-151 EVS TURRET WINDOWS	83
L391 PERFORM ASQ-176 OAS SYSTEM AND COOLING SHUTDOWNS	82
L363 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS POWER APPLICATION AND TURN ON PROCEDURES	82
L380 PERFORM ASQ-176 OAS PHYSICAL INSPECTIONS OF RADOMES	82
I264 REMOVE OR REPLACE AIRCRAFT DESICCANTS OR DESICCATOR ASSEMBLIES	82
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	82
L362 PERFORM ASQ-176 OAS COMPUTATIONAL SYSTEM SHUTDOWNS	81
H240 INSPECT OR SERVICE DESICCANTS	81

TABLE 22

REPRESENTATIVE TASKS PERFORMED BY 1-48 MONTHS TAFMS SHOP PERSONNEL  
(NUMBER OF MEMBERS: 53)

TASKS	PERCENT MEMBERS PERFORMING
H247 SOLDER TERMINALS OR WIRES	98
N435 PACK OR UNPACK ELECTROSTATIC SENSITIVE DEVICES (ESD)	94
N452 REMOVE OR REPLACE PRINTED CIRCUIT BOARDS	92
N436 PACK OR UNPACK OAS LRU	92
N421 ASSEMBLE OR DISASSEMBLE OFFENSIVE AVIONICS SYSTEM (OAS) LINE REPLACEABLE UNITS (LRU) OR LRU SUBASSEMBLIES	91
N425 CLEAN DUST FILTERS	89
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	89
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	87
E137 MAKE ENTRIES ON AFTO FORMS 349	87
N456 RESEARCH ILLUSTRATED PARTS BREAKDOWN (IPB) FOR OAS FIELD SHOP MAINTENANCE	87
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	85
N455 RESEARCH FIELD SHOP TECHNICAL ORDER SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	83
N426 CLEAN OAS LRU OR LRU SUBASSEMBLIES	83
H240 INSPECT OR SERVICE DESICCANTS	83
N448 REMOVE OR REPLACE DESICCANTS DURING FIELD SHOP MAINTENANCE	83
N441 PERFORM IN-SHOP CORROSION CONTROL PROCEDURES ON LRU	81
H237 CLEAN ELECTRO-OPTICAL VIEWING SYSTEMS (EVS) LENS	81
H238 CLEAN EVS MIRRORS	81
H242 REPAIR CABLES, OTHER THAN NUCLEAR HARDENED CABLES	81
N437 PACK OR UNPACK OAS MODULES OR SUBASSEMBLIES	79
N446 REMOVE OR REPLACE CIRCUIT COMPONENTS	75
N447 REMOVE OR REPLACE CONNECTOR PLUGS	75
N438 PERFORM CONTINUITY CHECKS OF INDIVIDUAL CIRCUITS OR CIRCUIT COMPONENTS	75
N449 REMOVE OR REPLACE DUST FILTERS	74
N450 REMOVE OR REPLACE ESD	74
0461 ALIGN REINSTRUMENTED TERRAIN COMPUTERS (RTC)	72
N427 CLEAN OAS SUPPORT EQUIPMENT	72
R560 REMOVE OR REPLACE AVIONICS CONTROL UNIT (ACU) SRU	70
0467 INSPECT RTC	68
H236 CLEAN CATHODE RAY TUBES (CRT)	68
N432 LACE OR REMOVE LACING FROM INTERNAL LRU WIRING ASSEMBLIES	68
R567 REMOVE OR REPLACE EVS MONITOR SRU	68
R579 REMOVE OR REPLACE VIDEO DISTRIBUTION UNIT (VDU) SRU	68
R572 REMOVE OR REPLACE OAS MULTIFUNCTION DISPLAY (MFD) SRU	68
N430 INSPECT INCOMING EQUIPMENT	66
R561 REMOVE OR REPLACE CAMERA ELECTRONICS SRU	66
R562 REMOVE OR REPLACE CONTROL PANELS SRU	66

TABLE 23

## EQUIPMENT USED BY AFSC 321X0 FIRST ENLISTMENT PERSONNEL

EQUIPMENT	ALL (N=144)	SHOP (N=53)	FLIGHTLINE (N=89)
BREAKOUT BOX	94	92	97
MULTIMETER	94	98	92
OSCILLOSCOPE	94	100	91
ELECTRO-OPT VIEWING SYS (EVS) HANDLING FIXTURE	92	83	98
VOLTMETER, DIGITAL	92	98	90
TORQUE WRENCH	90	96	88
KIT, HELIUM SERVICING	84	89	82
ELECTRO-OPT VIEWING SYS (EVS) TRANSPORTER	74	40	97
TEST SET, BORESIGHT	65	68	65
ANGLE-OF-ATTACK VANE FIXTURE	63	19	90
TEST SET, RADAR	63	70	60
BREAKOUT CABLE ASSEMBLY	60	60	60
OVERHEAD HOIST	60	89	44
ANTENNA ATTITUDE MEASURING SET	57	60	55
ANGLE-OF-ATTACK COMPUTER TESTER	55	28	71
ANALYZER, SPECTRUM	51	77	36
VOLTMETER, ELECTRONIC	48	77	31
ELECTRO-OPT VIEWING SYS (EVS) TEST SET (ASM-470)	47	92	20
CALCULATOR	44	83	22
COMPUTER TERMINAL	42	85	17
GENERATOR, PULSE	42	87	16
TEST POINT ADAPTER	42	62	29
DUMMY FIXTURE	38	25	45
COMPUTER PROCESSOR	36	66	18
METER, POWER	36	75	12
AMMETER	35	42	31
COMPUTER PRINTER	35	89	3
TEST SET, RELAY	35	32	36
GENERATOR, SIGNAL	33	72	10
COMPONENT PRESSURIZING EQUIPMENT	32	57	18
ELECTRONIC COUNTER	31	75	4
GENERATOR, FREQUENCY	30	70	7
VARIABLE POWER SUPPLIES	30	60	12
VOLTMETER, ELECTROSTATIC	30	77	2
ATTENUATOR, VARIABLE	29	68	7

TABLE 23 (CONTINUED)

## EQUIPMENT USED BY AFSC 321X0 FIRST ENLISTMENT PERSONNEL

EQUIPMENT	ALL (N=144)	SHOP (N=53)	FLIGHTLINE (N=29)
RADAR TEST TRANSMITTER	28	26	29
PHOTOMETER	27	72	1
KIT, NITROGEN SERVICING	24	66	0
DATA BUS MONITOR	23	43	11
MILLIOHMETER	23	49	8
TEST SET, TURRET DRIVE	22	34	13
WAVEFORM PROCESSOR SYSTEM (WFA)	22	58	0
ATTENUATOR, FIXED	21	51	4
GENERATOR, SWEEP	21	43	8
TEST PATTERN PROJECTOR	21	55	1
METER, STANDING WAVE RATIO (SWR)	20	55	0
PROBE, CALIBRATOR	19	40	7
PROBE, HIGH VOLTAGE	19	45	3
TERMINATION LOAD	19	51	0
ANALYZER, SERIAL BUS	18	25	15
GENERATOR, PROGRAMMABLE PULSE (PPG)	18	47	1
FLASH PROTECTION TESTER	17	45	1
PROBE, DIGITAL LOGIC	17	28	11
METER, PHASE	16	42	1
WAVEFORM SYNTHESIZER	14	38	0
DECADE BOX	8	17	2
GENERATOR, VIDEO TEST (VTG)	8	19	2
MECHANICAL COMPONENT ALIGNMENT TOOL	8	13	4
VOLTMETER, VACUUM-TUBE (VTVM)	8	19	2
GENERATOR, MARKER	6	17	0
KIT, DISC ALIGNMENTS	6	17	0
RATIO TRANSFORMER	6	15	1
VACCUUM GAUGE	5	9	2
FIELD TEST UNIT	3	6	1
STRAT MISSION DATA PREP SYS (SMDPS) TEST AID	3	9	0
SYSTEM ERROR BRIDGE	3	8	0
MECHANICAL COMPONENT ALIGNMENT JIG	1	2	0



### Training Emphasis Ratings

Table 24 lists the 25 tasks with highest TE ratings. These tasks illustrate the type of performance or knowledge considered important for training by senior technicians. These examples also illustrate the various type of data (percent members performing, training emphasis, and task difficulty) which can be used to review training documents. In Table 24, all of the tasks have TE ratings at least one standard deviation above the mean, which indicates these tasks should be considered for training. All but two of these tasks are also performed by fairly high percentages of first-enlistment personnel. Several of the tasks also have above average TD ratings, which indicates these are also difficult tasks to learn. These factors, together with percent members performing data, suggest these tasks are appropriate for some form of basic resident technical training. In all, slightly over 147 tasks were rated high in TE (3.19 or above). A few of the tasks rated high in TE have less than 30 percent of the first-term members performing. Criticality is usually a consideration when assigning a TE value and this is reflected in the high ratings, although the percent members performing is very low. A complete listing of the tasks, in TE order, is provided to the technical training school as part of the Training Extract. The data in these tables should assist career ladder managers in determining the most important tasks for overall training.

### Training Documents

Percent members performing tasks, along with TE and TD, were used to assess AFSC 321X0 Specialty Training Standard (STS). Survey data were also used to review the basic course at Lowry AFB. Personnel from the school matched inventory tasks to appropriate sections of the STS and the POI. Based on these matchings, computer listings displaying percent members performing, TE and TD ratings were obtained. These computer products are contained in the Training Extract, which is provided for the training managers' review. A new product has been added to the Training Extract. Automated Training Indicators (ATI) give technical school personnel an objective, categorical training decision indicator based on Atch 1, ATCR 52-22.

### AFSC 321X0 Specialty Training Standard (STS)

The STS 321X0 (August 1987) covers all aspects of the Bomb-Navigation Systems career ladder. STS paragraphs 1 through 11 and paragraph 22 cover general areas of the career ladder, including operation of test equipment and theory of operation of the major systems. Paragraphs 12 through 18 relate to tasks performed on the flightline and paragraphs 19 through 21 apply to tasks performed in the shop.

To review the current STS, computer products were generated for the total AFSC and for personnel assigned to the flightline and shop. A copy of the computer products is included in the Training Extract. Information in the printout for the total AFSC includes ATI, TE, TD, and percent members performing for first-job, first-enlistment, and 5- and 7-skill level personnel.

TABLE 24

EXAMPLES OF TASKS RATED HIGH IN TRAINING EMPHASIS  
(PERCENT FIRST ENLISTMENT PERFORMING)

TASKS	TNG EMP*	1ST ENL	TASK DIFF**	1ST FLT	1ST SHOP
E137 MAKE ENTRIES ON AFTO FORMS 349	6.57	80	3.55	81	87
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	6.49	80	3.49	80	87
E140 MAKE ENTRIES ON AIRCRAFT FLIGHT OR MAINTENANCE RECORD FORMS, SUCH AS AFTO FORMS 781 SERIES	5.16	46	3.49	76	17
H247 SOLDER TERMINALS OR WIRES	4.81	73	3.76	65	98
I269 RESEARCH AIRCRAFT TECHNICAL ORDER (TO) SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	4.78	56	6.13	87	9
I256 PERFORM COMPONENT REPLACEMENT CHECKS	4.76	42	5.01	77	2
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	4.73	83	3.63	83	85
H239 INSPECT NUCLEAR HARDENED CABLES OR CONNECTORS	4.70	76	4.45	88	58
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	4.65	75	4.89	75	89
L383 PERFORM ASQ-176 OAS PREOPERATIONAL CONTROL SETTINGS	4.54	54	3.62	83	6
I255 OPEN OR CLOSE AIRCRAFT RADOMES	4.51	61	3.39	92	9
K328 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ASSEMBLIES	4.46	57	5.22	88	6
J300 REMOVE OR REPLACE AIRCRAFT REINSTRUMENTED TERRAIN COMPUTERS (RTC)	4.43	54	4.55	83	4
K323 REMOVE OR REPLACE ASQ-151 EVS FLIR SCANNER ASSEMBLIES	4.43	59	5.32	90	6
H242 REPAIR CABLES, OTHER THAN NUCLEAR HARDENED CABLES	4.38	72	4.99	73	81
L371 PERFORM ASQ-176 OAS GROUND COOLING AND SYSTEM POWER APPLICATIONS	4.38	54	3.89	86	4
D85 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	4.35	22	4.45	33	30
K329 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ELECTRONICS	4.35	57	4.27	87	6
H240 INSPECT OR SERVICE DESICCANTS	4.32	82	2.74	83	83
I260 PLACE RF WARNING SIGNS AND LIGHTS	4.32	56	2.56	83	4
J299 REMOVE OR REPLACE AIRCRAFT RECEIVER-TRANSMITTER	4.32	56	4.69	85	4
K318 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS FLIR SYSTEMS	4.32	57	4.55	88	9
J293 PERFORM TA PILOT POSITION SHUTDOWNS	4.30	41	3.68	71	0
J297 PERFORM TA SYSTEM RETURN TO NORMAL CONFIGURATIONS	4.30	22	4.84	49	0
I267 REMOVE OR REPLACE AIRCRAFT OAS LINE REPLACEABLE UNITS (LRU)	4.27	59	3.92	91	8

\* Training Emphasis average is 1.88, with an SD of 1.31

\*\* Task Difficulty average is 5.0, with an SD of 1.0

Percent members performing for first-enlistment and 5- and 7-skill level personnel are presented separately for flightline and shop airmen. Separate ATIs were computed for flightline and shop groups. The TE and TD data are based on the total sample.

To review the STS, it was necessary to consider the basic division in the career ladder. Based on percent members performing for either flightline or shop personnel, the majority of the STS is supported. There were only two major sections with matched inventory items which were not supported by survey data: the Strategic Radar System and the Strategic Mission Data Preparation System (SMDPS). As these systems become fully operational, obviously these low percentages will change. The STRAT Radar System is being phased in within the career ladder and is scheduled to be fully implemented in the 1990-91 time-frame. The SMDPS has required low maintenance and, again, not many career ladder members have had an opportunity to obtain experience on this system.

Table 25 presents examples of tasks which were not referenced to the STS. Career ladder personnel should review these tasks to determine if they are covered within the STS, and if not, whether they should be included.

#### POI 3ABR321X0

The Plan of Instruction (POI) scheduled to be effective in May 1988 was matched with survey data. A computer printout which displays the tasks referenced to areas in the POI was generated. This printout displays the TE ratings, ATI for all first-enlistment personnel, percent members performing for those on their first job (1-24 months TAFMS) and first enlistment (1-48 months), and TD ratings. Since the career ladder is divided into Flightline and Shop Personnel, information is also shown for these groups.

Basically, the training document is supported by survey data. The section on STRAT Radar had very low percentages performing these tasks and low task factor data. This is a new system which was only being used at two or three bases when the survey was administered.

Table 26 lists examples of tasks not referenced to the POI. Many of these tasks are performed by Shop Personnel and may be covered in 5-level courses. Instructors should review the tasks which are technical to determine if they need to be included in the course instruction and the next revised POI.

The basic course is 24 weeks, 2 days in length; however, the EPI portion is 68 out of the 122 days. The training is directed primarily toward flightline tasks. In the past, personnel were initially assigned to the flightline, then after obtaining experience on the flightline, they were sent to 5-level courses to obtain skills needed to perform in the shop. Apparently, more

TABLE 25

## EXAMPLES OF TASKS UNREFERENCED TO THE 321X0 SPECIALTY TRAINING STANDARD

TASKS	TOTAL SAMPLE					FLIGHTLINE				SHOP			
	TNG	ATI	ENL	LVL	DIFF	1ST	ENL	LVL	7- LVL	1ST	ENL	LVL	7- LVL
E140 MAKE ENTRIES ON AIRCRAFT FLIGHT OR MAINTENANCE RECORD FORMS, SUCH AS AFTO FORMS 781 SERIES	5.16	12	46	47	3.49	64	17	28	80	64	17	28	26
H247 SOLDER TERMINALS OR WIRES	4.81	18	73	80	3.76	57	98	92	58	57	98	92	87
I256 PERFORM COMPONENT REPLACEMENT CHECKS	4.76	12	42	46	5.01	67	2	6	66	67	2	6	3
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	4.65	18	75	83	4.89	66	89	89	68	66	89	89	84
K329 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ELECTRONICS	4.35	18	57	49	4.27	88	6	4	69	88	6	4	3
K324 REMOVE OR REPLACE ASQ-151 EVS FLIR SIGNAL PROCESSORS	4.27	18	59	50	4.33	91	6	4	69	91	6	4	3
J305 REMOVE OR REPLACE TA RADAR SCAN CONVERTERS	4.19	12	49	45	3.01	75	6	6	62	75	6	6	3
H244 REPAIR NUCLEAR HARDENED CONNECTORS OR MULTIPIN CONNECTORS	4.00	18	52	56	6.78	45	64	61	52	45	64	61	63
L336 ISOLATE MALFUNCTIONS WITHIN ASQ-176 OAS SUBSYSTEMS USING FLIGHT CONTROL PROGRAMS (FCP)	3.84	12	42	48	5.71	64	4	3	68	64	4	3	3
J272 ISOLATE MALFUNCTIONS WITHIN TERRAIN AVOIDANCE (TA) SYSTEMS	3.76	12	46	46	7.49	71	4	4	63	71	4	4	3
H236 CLEAN CATHODE RAY TUBES (CRT)	3.65	10	38	53	2.73	20	68	82	31	20	68	82	76
I268 REPAIR AIRCRAFT WIRING	3.57	12	42	45	5.87	64	4	6	62	64	4	6	0
H241 ISOLATE MALFUNCTIONS WITHIN CATEGORY II TEST EQUIPMENT	3.19	7	20	37	6.51	16	26	51	18	16	26	51	66
W678 LOAD OPERATING SYSTEM SOFTWARE INTO ASM-641 INS TEST SET	2.95	7	16	24	5.37	0	43	64	3	0	43	64	58
N455 RESEARCH FIELD SHOP TECHNICAL ORDER SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	2.92	15	31	34	6.16	1	83	88	3	1	83	88	87
P480 ISOLATE MALFUNCTIONS WITHIN ASQ-176 OAS RADAR ANTENNAS USING ASM-653 SAT	2.81	7	12	23	6.43	0	32	61	0	0	32	61	61
R551 ALIGN ELECTRO-OPTICAL VIEWING SYSTEM (EVS) DATA PRESENTATION GROUPS (DPG) USING ASM-479AX TEST SET	2.81	7	17	24	5.93	0	45	65	0	0	45	65	76
N438 PERFORM CONTINUITY CHECKS OF INDIVIDUAL CIRCUITS OR CIRCUIT COMPONENTS	2.43	7	29	33	5.10	2	75	82	2	2	75	82	82

TABLE 26

EXAMPLES OF TASKS UNREFERENCED TO AFSC 321X0 PLAN OF INSTRUCTION

TASKS	TNG EMP	ATI* ALL	PCT			TASK DIFF	PCT		ATI FLT	PCT		ATI SHOP
			1ST JOB	1ST ENL	1ST ENL		1ST FLT	1ST ENL		1ST FLT	1ST ENL	
E140 MAKE ENTRIES ON AIRCRAFT FLIGHT OR MAINTENANCE RECORD FORMS, SUCH AS AFTO FORMS 781 SERIES	5.16	12	48	46	64	3.49	18	17	11			
I269 RESEARCH AIRCRAFT TECHNICAL ORDER (TO) SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	4.78	18	57	56	83	6.13	18	9	11			
I256 PERFORM COMPONENT REPLACEMENT CHECKS	4.76	12	44	42	67	5.01	18	2	11			
J300 REMOVE OR REPLACE AIRCRAFT REINSTRUMENTED TERRAIN COMPUTERS (RTC)	4.43	18	58	54	85	4.55	18	4	11			
K329 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ELECTRONICS	4.35	18	59	57	88	4.27	18	6	11			
J299 REMOVE OR REPLACE AIRCRAFT RECEIVER-TRANSMITTER MODULATORS (RTM)	4.32	18	61	56	89	4.69	18	4	11			
I267 REMOVE OR REPLACE AIRCRAFT OAS LINE REPLACEABLE UNITS (LRU)	4.27	18	62	59	91	3.92	18	8	11			
J298 REMOVE OR REPLACE AIRCRAFT ANTENNAS	4.27	12	50	49	78	6.00	18	2	11			
L336 ISOLATE MALFUNCTIONS WITHIN ASQ-176 OAS SUBSYSTEMS USING FLIGHT CONTROL PROGRAMS (FCP)	3.84	12	42	42	64	5.71	18	4	11			
J284 PERFORM TA AOA SYSTEM ADJUSTMENTS	3.30	12	33	35	55	6.22	18	0	11			
O461 ALIGN REINSTRUMENTED TERRAIN COMPUTERS (RTC)	3.11	7	24	26	0	6.56	7	72	17			
P517 PERFORM RTC NORMALIZATION UNIT ALIGNMENTS USING ASM-653 SAT	3.11	7	13	14	0	6.02	7	38	15			
P519 PERFORM RTM ALIGNMENTS USING ASM-653 SAT	3.11	7	16	17	0	7.97	7	47	15			
P518 PERFORM RTM ABBREVIATED FUNCTIONAL TESTS USING ASM-653 SAT	3.08	7	21	21	0	6.75	7	57	17			
P520 PERFORM RTM COMPLETE FUNCTIONAL TESTS USING ASM-653 SAT	3.03	7	14	15	0	7.76	7	42	15			
O467 INSPECT RTC	3.00	7	24	25	0	5.71	7	68	17			
K307 ADJUST ASQ-151 ELECTRO-OPTICAL VIEWING SYSTEM (EVS)	2.95	7	17	20	30	5.40	15	2	7			

\* ATI is a categorical training decision indicator based on ATCH 1, ATCR 52-22

first-term personnel are now going directly to the shop, although the flight-line personnel are still the dominant portion of the career ladder. At present, the course is appropriate for most AFSC 321X0 personnel; however, assignment policies may need to be considered since very few shop members are performing tasks matched to the POI.

## JOB SATISFACTION

Table 27 presents data showing job interest, perceived utilization of talents and training, and reenlistment intention of Bomb-Navigation Systems TAFMS groups, as well as a comparative sample of Mission Equipment Maintenance personnel surveyed in 1987. In looking at the job satisfaction indicators by time in the service, it is interesting to note that job interest shows a steady decrease, from 81 percent expressing positive job interest among first-enlistment personnel to 69 percent for those in career status. This same flow is shown for perceived utilization of talents and training. These trends represent a reversal in the normal pattern of job satisfaction factors.

Otherwise, Bomb-Navigation Systems personnel in general show similar attitudes to the comparative sample. Job interest and utilization of talents and training are somewhat higher for the first- and second-enlistment AFSC 321X0 personnel. This pattern is reversed for those in career status who perceive their job as less interesting than those in the comparative sample. Although they express positive attitudes toward their job, fewer first- and second-term Bomb-Navigation Systems personnel indicate they will reenlist than those in the comparative sample. Reenlistment patterns for those in career status are comparable.

Table 28 summarizes the job satisfaction indicators by skill level for the total sample and for those assigned to shop or flightline areas. Overall, the expressed job interest and perceived utilization of talents and training is high for each skill level. However, when this information is separated by functional area, differences in job factors are found. Flightline Personnel express consistently lower job interest and perceived utilization of talents. Utilization of training is lower for 7-skill level Flightline Personnel. The same percentages of shop and flightline 3-skill personnel indicate they plan to reenlist. Greater differences in potential retention are found within the 5- and 7-skill level personnel, where less than 60 percent of the specialists indicate they will reenlist.

Job satisfaction was also examined for jobs identified within the career ladder (see Table 29). The lowest job interest, as would be expected, is found within the Flightline Production job. Although they represent a very small group (5), personnel in Flightline Production indicate less use of talents and training. Plans to reenlist vary from 57 percent to 83 percent.

TABLE 27

COMPARISON OF JOB SATISFACTION INDICATORS BY TAFMS GROUPS  
(PERCENT MEMBERS RESPONDING)\*

	1-48 MOS TAFMS		49-96 MOS TAFMS		97+ MOS TAFMS	
	321X0 (N=144)	COMP SAMPLE** (N=2,187)	321X0 (N=162)	COMP SAMPLE** (N=974)	321X0 (N=160)	COMP SAMPLE** (N=1,613)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	81	72	75	73	69	78
SO-SO	12	17	12	14	18	14
DULL	5	11	12	12	12	8
<u>PERCEIVED UTILIZATION OF TALENTS:</u>						
FAIRLY WELL TO PERFECTLY	84	78	78	77	78	82
LITTLE OR NOT AT ALL	15	22	22	22	22	17
<u>PERCEIVED UTILIZATION OF TRAINING:</u>						
FAIRLY WELL TO PERFECTLY	91	83	83	81	79	80
LITTLE OR NOT AT ALL	9	17	17	19	21	20
<u>REENLISTMENT INTENTIONS:</u>						
YES, OR PROBABLY YES	54	57	59	67	73	73
NO, OR PROBABLY NO	46	43	39	31	11	10
PLAN TO RETIRE	-	-	-	1	15	16

\* Columns may not add up to 100 percent due to rounding

- Indicates less than 1 percent

\*\* Comparative sample includes personnel from Mission Equipment Maintenance surveyed in 1987  
AFSCs include 303X2, 303X3, 304X6, 321X1, 427X0, 427X2, and 427X3

TABLE 28

COMPARISON OF JOB SATISFACTION INDICATORS BY DAFSC AND FUNCTIONAL GROUPS  
(PERCENT MEMBERS RESPONDING)\*

	3-SKILL LEVEL			5-SKILL LEVEL			7-SKILL LEVEL		
	ALL	SHOP	FLIGHTLINE	ALL	SHOP	FLIGHTLINE	ALL	SHOP	FLIGHTLINE
<u>EXPRESSED JOB INTEREST:</u>									
INTERESTING	81	88	77	74	86	65	76	87	64
SO-SO	12	10	13	14	10	17	16	13	12
DULL	6	2	9	11	3	17	12	-	23
<u>PERCEIVED UTILIZATION OF TALENTS:</u>									
FAIRLY WELL TO PERFECTLY	81	86	79	78	92	71	81	95	74
LITTLE OR NOT AT ALL	19	14	21	22	8	29	19	5	26
<u>PERCEIVED UTILIZATION OF TRAINING:</u>									
FAIRLY WELL TO PERFECTLY	87	90	84	84	92	85	81	100	74
LITTLE OR NOT AT ALL	12	10	14	15	7	15	19	-	26
<u>REENLISTMENT INTENTIONS:</u>									
YES, OR PROBABLY YES	57	57	57	59	64	55	71	82	66
NO, OR PROBABLY NO	42	43	41	40	36	44	13	11	15
PLAN TO RETIRE	-	-	-	1	-	-	15	3	17

\* Columns may not add up to 100 percent due to rounding

- Indicates less than 1 percent



TABLE 29

COMPARISON OF JOB SATISFACTION INDICATORS BY  
CAREER LADDER STRUCTURE GROUPS  
(PERCENT MEMBERS RESPONDING)\*

	<u>FLTL PERS (N=232)</u>	<u>QA PERS (N=6)</u>	<u>SUPVRY PERS (N=36)</u>	<u>SUP PERS (N=7)</u>	<u>SHOP PERS (N=141)</u>	<u>FTL PRODUCTION PERSONNEL (N=5)</u>
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	67	83	78	71	87	80
SO-SO	16	17	17	29	10	-
DULL	16	-	5	-	2	20
<u>PERCEIVED UTILIZATION OF TALENTS:</u>						
FAIRLY WELL TO PERFECTLY	75	100	86	71	91	60
LITTLE OR NOT AT ALL	25	-	14	29	8	40
<u>PERCEIVED UTILIZATION OF TRAINING:</u>						
FAIRLY WELL TO PERFECTLY	81	100	78	86	94	60
LITTLE OR NOT AT ALL	19	-	22	14	5	40
<u>REENLISTMENT INTENTIONS:</u>						
YES, OR PROBABLY YES	59	83	64	57	67	60
NO, OR PROBABLY NO	37	-	11	29	31	-
PLAN TO RETIRE	3	17	25	-	1	40

\* Columns may not add up to 100 percent due to rounding  
- Indicates less than 1 percent

Two small jobs have lower percent members planning to reenlist (Supply and Flightline Production personnel). Both of these groups represent specialized jobs. Fifty-nine percent of the Flightline Personnel job group indicate they plan to reenlist, compared with 67 percent of the Shop Personnel. One-fourth of the Supervisory Personnel plan to retire.

Job satisfaction data were compared between the previous survey respondents and the current sample (see Table 30). Job satisfaction factors are presented, by shred, for the 1977 sample. These groups were presented for those in their first enlistment or beyond. As shown, job satisfaction factors are consistently higher for the current sample than those surveyed in 1977. Perceived use of talents and training, as well as job interest, have increased considerably for the first-term personnel. Reenlistment potential is shown for these groups in Table 31 by first-enlistment, second-enlistment, and career TAFMS groups. For the first-enlistment personnel, the percent members who plan to reenlist is much higher than the 1977 group. Patterns are fairly close for those in their second enlistment. In 1977, there was a fairly large difference between K- and L-shred career potential. The percent assigned the K-shred and those currently in career status showed a similar pattern.

## IMPLICATIONS

Clear distinctions were found between flightline and shop maintenance positions. This separation of positions reflects the job structure established under SAC's ROLS plan. Under ROLS, personnel are assigned to the Organizational Maintenance Squadron (OMS), which is responsible for flightline maintenance, or to an Avionics Maintenance Squadron (AMS) for Bomb-Navigation Systems shop maintenance. This separation is also outlined in the STS in that separate sections of this document cover flightline and shop responsibilities. Training for the career ladder is directed toward flightline tasks. The current data shows that personnel may be assigned to either area or may begin on the flightline and then be transferred to a shop. Since the largest number of personnel are working on the flightline, the course is appropriate for most AFSC 321X0 personnel.

In the past, the career ladder had a fairly high attrition rate. The present survey sample shows a considerable increase for first-term personnel planning to reenlist. Currently, there are differences in job satisfaction indicators between flightline and shop personnel, particularly among the 5- and 7-skill level members. Flightline personnel show lower job interest and use of talents and training, as well as reenlistment potential.

The career ladder has undergone major changes in both equipment and structure. Changes in equipment are still being implemented. The training documents have taken into account the new systems and training is being implemented. Career ladder managers should take a careful look at these issues to determine long-term effects based on assignment policy, advanced training capability, and performance testing.

TABLE 30  
COMPARISON OF JOB SATISFACTION INDICATORS FOR PREVIOUS  
AND CURRENT SURVEY DATA  
(PERCENT MEMBERS RESPONDING)\*

	1-48 MOS TAFMS			49+ MOS TAFMS		
	1977 321XOK (N=219)	1977 321XOL (N=28)	1988 321XO (N=144)	1977 321XOK (N=300)	1977 321XOL (N=117)	1988 321XO (N=322)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	65	46	81	74	71	72
SO-SO	17	29	12	15	12	15
DULL	15	21	5	6	8	12
<u>PERCEIVED UTILIZATION OF TALENTS:</u>						
FAIRLY WELL TO PERFECTLY	66	61	84	79	85	78
LITTLE OR NOT AT ALL	32	39	15	20	15	22
<u>PERCEIVED UTILIZATION OF TRAINING:</u>						
FAIRLY WELL TO PERFECTLY	75	64	91	77	81	81
LITTLE OR NOT AT ALL	24	36	9	19	16	19

\* Columns may not add up to 100 percent due to rounding or no response

TABLE 31

COMPARISON OF JOB SATISFACTION INDICATORS FOR PREVIOUS AND CURRENT SURVEY DATA  
(PERCENT MEMBERS RESPONDING)\*

	1-48 MOS TAFMS			49-96 MOS TAFMS			97+ MOS TAFMS		
	1977	1977	1988	1977	1977	1988	1977	1977	1988
YES, OR PROBABLY YES	29	28	54	51	55	59	70	59	73
NO, OR PROBABLY NO	68	68	46	47	35	39	27	39	11

REENLISTMENT INTENTIONS:

YES, OR PROBABLY YES

NO, OR PROBABLY NO

\* Columns may not add up to 100 percent due to rounding or no response

APPENDIX A

TABLE A1

GROUP ID NUMBER AND TITLE: STAGE 40, FLIGHTLINE PERSONNEL  
 GROUP SIZE: 232 PERCENT OF SAMPLE: 50%  
 AVERAGE GRADE: E3-E5 AVERAGE TICF: 50 MONTHS  
 AVERAGE TAFMS: 74 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING

TASKS	PERCENT MEMBERS PERFORMING
K323 REMOVE OR REPLACE ASQ-151 EVS FLIR SCANNER ASSEMBLIES	95
K309 CLEAN ASQ-151 EVS TURRET WINDOWS	95
K318 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS FLIR SYSTEMS	94
K320 PERFORM OPERATIONAL CHECKS OF ASQ-151 EVS STV SYSTEMS	94
I255 OPEN OR CLOSE AIRCRAFT RADOMES	94
I267 REMOVE OR REPLACE AIRCRAFT OAS LINE REPLACEABLE UNITS (LRU)	93
K328 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ASSEMBLIES	93
L370 PERFORM ASQ-176 OAS GMCP LOADINGS	93
I269 RESEARCH AIRCRAFT TECHNICAL ORDER (TO) SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	92
L345 PERFORM ASN-136 INS SHUTDOWNS	92
H239 INSPECT NUCLEAR HARDENED CABLES OR CONNECTORS	92
L364 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS SHUTDOWNS	91
K313 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS FORWARD LOOKING INFRARED (FLIR) SYSTEMS	91
K324 REMOVE OR REPLACE ASQ-151 EVS FLIR SIGNAL PROCESSORS	91
K314 ISOLATE MALFUNCTIONS WITHIN ASQ-151 EVS STEERABLE TELEVISION (STV) SYSTEMS	91
L341 ISOLATE MALFUNCTIONS WITHIN INERTIAL NAVIGATION SYSTEMS (INS)	90
L371 PERFORM ASQ-176 OAS GROUND COOLING AND SYSTEM POWER APPLICATIONS	90
K316 PERFORM ASQ-151 EVS SYMBOL CHECKS	90
L343 PERFORM ASN-136 INITIALIZATION AND INERTIAL MEASUREMENT EQUIPMENT (IME)/GMCP CHECKOUTS	89
K329 REMOVE OR REPLACE ASQ-151 EVS STV CAMERA ELECTRONICS	89
J299 REMOVE OR REPLACE AIRCRAFT RECEIVER-TRANSMITTER MODULATORS (RTM)	89
K333 REMOVE OR REPLACE ASQ-151 EVS TURRET WINDOWS	89
L391 PERFORM ASQ-176 OAS SYSTEM AND COOLING SHUTDOWNS	88
L363 PERFORM ASQ-176 OAS CONTROLS AND DISPLAYS POWER APPLICATION AND TURN ON PROCEDURES	88
L383 PERFORM ASQ-176 OAS PREOPERATIONAL CONTROL SETTINGS	88
L362 PERFORM ASQ-176 OAS COMPUTATIONAL SYSTEM SHUTDOWNS	88
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	88
L361 PERFORM ASQ-176 OAS COMPUTATIONAL SYSTEM INITIALIZATIONS	88
L375 PERFORM ASQ-176 OAS NAVIGATOR AREA PHYSICAL INSPECTIONS	88

TABLE A2

GROUP ID NUMBER AND TITLE: STAGE 112, QUALITY ASSURANCE PERSONNEL  
 GROUP SIZE: 6 PERCENT OF SAMPLE: 1%  
 AVERAGE GRADE: E5, E6 AVERAGE TICF: 134 MONTHS  
 AVERAGE TAFMS: 146 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING

TASKS	PERCENT MEMBERS PERFORMING
C71 INSPECT SUPPORT EQUIPMENT OR SPECIAL TOOLS	100
C69 INSPECT IN-SHOP MAINTENANCE ACTIONS	100
C60 EVALUATE QUALITY CONTROL PROCEDURES	100
H239 INSPECT NUCLEAR HARDENED CABLES OR CONNECTORS	100
U646 INSPECT ASM-470 EVS TEST SETS	100
W675 INSPECT ASM-641 INS TEST SETS	100
0467 INSPECT RTC	100
0465 INSPECT ASM-46B COMPUTER TEST SETS	100
0466 INSPECT NRTC ALIGNMENT UNITS	100
E137 MAKE ENTRIES ON AFTO FORMS 349	100
C62 EVALUATE TO IMPROVEMENT REPORTS	100
A3 COMPILE DATA FOR REPORTS	83
S593 INSPECT ASM-479AX ELECTRO-OPTICAL VIEWING SYSTEM (EVS)/ OFFENSIVE AVIONICS SYSTEM (OAS) TEST SETS	83
E142 MAKE ENTRIES ON RECORDS OF EVALUATIONS	83
F173 EVALUATE SERVICEABILITY OF EQUIPMENT	83
V665 INSPECT ASM-661 TRANSMITTER MODULATOR ASSEMBLY TEST SETS (TMATS)	83
D94 EVALUATE PERSONNEL FOR NEED OF TRAINING	83
D95 EVALUATE PROGRESS OF TRAINEES	83
D85 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	83
E133 MAKE ENTRIES ON AF FORMS 2420 (QUALITY CONTROL INSPECTION SUMMARY)	83
H240 INSPECT OR SERVICE DESICCANTS	83
I252 INSPECT RADIO FREQUENCY (RF) ABSORBER PANELS	83
C59 EVALUATE PERSONNEL FOR COMPLIANCE WITH TECHNICAL ORDERS (TO)	67
B38 IMPLEMENT QUALITY CONTROL PROCEDURES	67
C67 INSPECT AIRCRAFT MAINTENANCE ACTIONS	67
D91 EVALUATE EFFECTIVENESS OF TRAINING PROGRAMS	67
C68 INSPECT CONDITION AND APPEARANCE OF FACILITIES	67
E151 RESEARCH TO INDEXES	67
D81 CONDUCT OJT	67
C56 EVALUATE INSPECTION REPORT FINDINGS	67

TABLE A3

GROUP ID NUMBER AND TITLE: STAGE 26, SUPERVISORY PERSONNEL  
 GROUP SIZE: 36 PERCENT OF SAMPLE: 8%  
 AVERAGE GRADE: E6, E7 AVERAGE TICF: 148 MONTHS  
 AVERAGE TAFMS: 191 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING

TASKS	PERCENT MEMBERS PERFORMING
C70 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	97
C74 WRITE APR	97
A3 COMPILE DATA FOR REPORTS	97
B29 COUNSEL SUBORDINATES, SUCH AS ON JOB PROGRESSION, MILITARY-RELATED MATTERS, AND PERSONAL MATTERS	92
C75 WRITE RECOMMENDATIONS FOR AWARDS AND DECORATIONS	92
A14 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	81
A7 DETERMINE WORK PRIORITIES	78
D95 EVALUATE PROGRESS OF TRAINEES	78
E141 MAKE ENTRIES ON CABINET, SAFE, OR ROOM SECURITY FORMS	78
B44 INTERPRET DIRECTIVES FOR SUBORDINATES	75
A21 SCHEDULE LEAVES	75
D100 MAKE ENTRIES IN OJT RECORDS	75
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	72
A23 SCHEDULE WORK PRIORITIES	72
D99 MAINTAIN TRAINING RECORDS	72
B28 CONDUCT SUPERVISORY ORIENTATIONS OF NEWLY ASSIGNED PERSONNEL	72
A19 PLAN OR SCHEDULE WORK ASSIGNMENTS	69
D81 CONDUCT OJT	69
B41 IMPLEMENT SELF-INSPECTION PROGRAMS	67
A11 DEVELOP SELF-INSPECTION PROGRAMS	67
D84 COUNSEL TRAINEES ON TRAINING PROGRESS	67
D94 EVALUATE PERSONNEL FOR NEED OF TRAINING	67
C66 INDORSE AIRMAN PERFORMANCE REPORTS (APR)	64
C71 INSPECT SUPPORT EQUIPMENT OR SPECIAL TOOLS	64
A5 DETERMINE LOGISTICS REQUIREMENTS, SUCH AS EQUIPMENT, PERSONNEL, AND SPACE	64
C51 ANALYZE WORKLOAD REQUIREMENTS	64
A4 COORDINATE MAINTENANCE OF EQUIPMENT WITH APPROPRIATE AGENCIES	64
B30 DIRECT DEVELOPMENT OF STATUS BOARDS, CHARTS, OR GRAPHS	64
E120 EDIT AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	61
E122 MAINTAIN CORRESPONDENCE FILES	61
D101 PLAN TRAINING	61
D96 EVALUATE TRAINING METHODS AND TECHNIQUES	61
F174 INVENTORY EQUIPMENT OR TOOLS	61
C68 INSPECT CONDITION AND APPEARANCE OF FACILITIES	58



TABLE A4

GROUP ID NUMBER AND TITLE: STAGE 49, SUPPLY PERSONNEL  
 GROUP SIZE: 7 PERCENT OF SAMPLE: 2%  
 AVERAGE GRADE: E3, E4 AVERAGE TICF: 31 MONTHS  
 AVERAGE TAFMS: 51 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING

TASKS	PERCENT MEMBERS PERFORMING
C71 INSPECT SUPPORT EQUIPMENT OR SPECIAL TOOLS	100
F175 ISSUE EQUIPMENT OR SUPPLIES	100
F173 EVALUATE SERVICEABILITY OF EQUIPMENT	100
H242 REPAIR CABLES, OTHER THAN NUCLEAR HARDENED CABLES	100
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	100
F174 INVENTORY EQUIPMENT OR TOOLS	86
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	86
F164 ANNOTATE AND ATTACH EQUIPMENT STATUS LABELS OR TAGS TO EQUIPMENT	86
F202 RESEARCH MICROFICHE FILES OR TECHNICAL ORDERS FOR SUPPLY REQUISITION DATA	86
F178 MAINTAIN CONSOLIDATED TOOL KITS (CTK)	71
H247 SOLDER TERMINALS OR WIRES	71
B33 DIRECT MAINTENANCE OF EQUIPMENT	71
F191 MAKE ENTRIES ON AF FORMS 2413 (SUPPLY CONTROL LOG)	71
F180 MAINTAIN ORGANIZATIONAL EQUIPMENT AND SUPPLY RECORDS	57
E137 MAKE ENTRIES ON AFTO FORMS 349	57
F190 MAKE ENTRIES ON AF FORMS 2005 (ISSUE/TURN IN REQUEST)	57
C70 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	57
F203 REVIEW STATUS OF AWAITING MAINTENANCE (AWM) OR AWAITING PARTS (AWP) EQUIPMENT	57
F197 MAKE ENTRIES ON DD FORMS 1348-6 (DOD SINGLE LINE ITEM REQUISITION SYSTEM DOCUMENT)	57
F183 MAINTAIN WORK ORDER RESIDUE	57
A4 COORDINATE MAINTENANCE OF EQUIPMENT WITH APPROPRIATE AGENCIES	57
E136 MAKE ENTRIES ON AFTO FORMS 244 AND 245 (INDUSTRIAL/SUPPORT EQUIPMENT RECORD AND CONTINUATION SHEET)	43
G212 INVENTORY CONSOLIDATED TOOL KITS (CTK)	43
F176 LOG EQUIPMENT TURN-INS	43
F182 MAINTAIN SUPPORT EQUIPMENT DAILY STATUS RECORDS	43
F196 MAKE ENTRIES ON DD FORMS 1348-1 (DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT)	43

TABLE A5

GROUP ID NUMBER AND TITLE: STAGE 45, SHOP PERSONNEL  
 GROUP SIZE: 141 PERCENT OF SAMPLE: 30%  
 AVERAGE GRADE: E3-E5 AVERAGE TICF: 53 MONTHS  
 AVERAGE TAFMS: 66 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING

TASKS	PERCENT MEMBERS PERFORMING
N435 PACK OR UNPACK ELECTROSTATIC SENSITIVE DEVICES (ESD)	99
N436 PACK OR UNPACK OAS LRU	98
H247 SOLDER TERMINALS OR WIRES	97
N421 ASSEMBLE OR DISASSEMBLE OFFENSIVE AVIONICS SYSTEM (OAS) LINE REPLACEABLE UNITS (LRU) OR LRU SUBASSEMBLIES	96
N452 REMOVE OR REPLACE PRINTED CIRCUIT BOARDS	96
N456 RESEARCH ILLUSTRATED PARTS BREAKDOWN (IPB) FOR OAS FIELD SHOP MAINTENANCE	96
N425 CLEAN DUST FILTERS	95
N455 RESEARCH FIELD SHOP TECHNICAL ORDER SCHEMATICS, SUCH AS CIRCUIT OR WIRING DIAGRAMS	94
N426 CLEAN OAS LRU OR LRU SUBASSEMBLIES	94
H246 SERVICE FORWARD LOOKING INFRARED (FLIR) SCANNER HELIUM	94
E138 MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	93
N437 PACK OR UNPACK OAS MODULES OR SUBASSEMBLIES	93
H243 REPAIR COAXIAL OR CRIMPED CONNECTIONS	92
E137 MAKE ENTRIES ON AFTO FORMS 349	91
N448 REMOVE OR REPLACE DESICCANTS DURING FIELD SHOP MAINTENANCE	90
N441 PERFORM IN-SHOP CORROSION CONTROL PROCEDURES ON LRU	89
N449 REMOVE OR REPLACE DUST FILTERS	89
N427 CLEAN OAS SUPPORT EQUIPMENT	89
H242 REPAIR CABLES, OTHER THAN NUCLEAR HARDENED CABLES	87
N438 PERFORM CONTINUITY CHECKS OF INDIVIDUAL CIRCUITS OR CIRCUIT COMPONENTS	87
H240 INSPECT OR SERVICE DESICCANTS	87
H238 CLEAN EVS MIRRORS	86
N447 REMOVE OR REPLACE CONNECTOR PLUGS	85
N432 LACE OR REMOVE LACING FROM INTERNAL LRU WIRING ASSEMBLIES	85
H236 CLEAN CATHODE RAY TUBES (CRT)	84
N446 REMOVE OR REPLACE CIRCUIT COMPONENTS	84
H237 CLEAN ELECTRO-OPTICAL VIEWING SYSTEMS (EVS) LENS	84
N450 REMOVE OR REPLACE ESD	83
R560 REMOVE OR REPLACE AVIONICS CONTROL UNIT (ACU) SRU	83
R572 REMOVE OR REPLACE OAS MULTIFUNCTION DISPLAY (MFD) SRU	83
N430 INSPECT INCOMING EQUIPMENT	82
T642 REMOVE OR REPLACE FLIR SCANNER SHOP REPLACEABLE UNITS (SRU)	82
R575 REMOVE OR REPLACE SERVO CONTROL UNIT (SCU) SRU	82

TABLE A6

GROUP ID NUMBER AND TITLE: STAGE 55, FLIGHTLINE PRODUCTION PERSONNEL  
 GROUP SIZE: 5 PERCENT OF SAMPLE: 1%  
 AVERAGE GRADE: E7 AVERAGE TICF: 191 MONTHS  
 AVERAGE TAFMS: 196 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING

TASKS	PERCENT MEMBERS PERFORMING
A7 DETERMINE WORK PRIORITIES	100
B32 DIRECT FLIGHTLINE MAINTENANCE ACTIVITIES	100
C74 WRITE APR	100
C75 WRITE RECOMMENDATIONS FOR AWARDS AND DECORATIONS	100
C70 INSPECT PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	80
I251 DRIVE FLIGHTLINE MAINTENANCE VEHICLES	60
A23 SCHEDULE WORK PRIORITIES	60
E117 COORDINATE WORK REQUESTS WITH MAINTENANCE CONTROL	60
G232 TRANSPORT TEST EQUIPMENT OR UNITS TO OR FROM FLIGHTLINE	60
A19 PLAN OR SCHEDULE WORK ASSIGNMENTS	40
E152 REVIEW AIRCRAFT DEBRIEFING FORMS	40
B26 CONDUCT PREDISPATCH MAINTENANCE BRIEFINGS	40
E131 MAKE ENTRIES ON AF FORMS 1492 (DANGER)	40
B29 COUNSEL SUBORDINATES, SUCH AS ON JOB PROGRESSION, MILITARY-RELATED MATTERS, AND PERSONAL MATTERS	40
B25 ADJUST DAILY MAINTENANCE PLANS TO MEET OPERATIONAL COMMITMENTS	40
G222 POSITION NONPOWERED OR POWERED AGE TO AIRCRAFT	40
I249 BRIEF OR DEBRIEF FLIGHT CREWS	40
B44 INTERPRET DIRECTIVES FOR SUBORDINATES	40
G216 OPERATE AEROSPACE GROUND EQUIPMENT (AGE), SUCH AS POWER UNITS, HEATERS, OR LIGHT CARTS	40
C66 INDORSE AIRMAN PERFORMANCE REPORTS (APR)	40
C67 INSPECT AIRCRAFT MAINTENANCE ACTIONS	40
E140 MAKE ENTRIES ON AIRCRAFT FLIGHT OR MAINTENANCE RECORD FORMS, SUCH AS AFTO FORMS 781 SERIES	40
E149 REPORT MAINTENANCE VEHICLE DISCREPANCIES	40
B35 DIRECT WORK CENTER MAINTENANCE ACTIVITIES	20
G214 LAUNCH OR RECOVER AIRCRAFT	20
I248 ADVISE AIRCREWS ON IN-FLIGHT MAINTENANCE AND REPAIR PROCEDURES	20
A15 ESTABLISH PRODUCTION CONTROLS	20
A21 SCHEDULE LEAVES	20
C63 EVALUATE WORK SCHEDULES	20